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ALL-DIVISION EDITION

GENERAL DYNAMICS NEWS

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DELIVERY—American Airlines this week takes delivery of its first 990 jetliners. One plane will be used for crew training before it goes into passenger service.

First 990 Jets Delivered To American and Swissair

First deliveries of Convair 990 jet airliners to customer airlines are slated this week.

Three of General Dynamics/Convair's latest model jet transports to go to customers, Nos. 7, 9, 10, were due to be delivered practically simultaneously. American Airlines will be first to receive first two of its order of 15, Nos. 9 and 10. Swissair will take delivery on No. 7, first of seven on order.

One of American's first 990s will remain at the San Diego plant for a short pilot training period before being flown to New York by way of American's headquarters at Tulsa, Okla., by an American flight crew.

The other also will go to New York. Both are scheduled to be used for pilot training and proving flights from Idlewild airport before going into passenger service over American's eastern routes within the next couple of months.

GD/Convair men tabbed to accompany the American 990s are W. D. Carrier, pilot; and Ted Fritges, flight engineer. They will be assigned to American Airlines during initial operations of 990s in passenger service.

REAL/Varig of Brazil also will be getting its first of three 990s early this year.

Swissair is now using two 880-Ms over its Far East routes between Zurich and Tokyo. Convair 990 Coronados (international version) will go into service over Swissair's European routes and connecting flights to South America, Africa, and the Near East.

The 990 jet airliner received FAA certification to permit it to go into use as a scheduled passenger carrier on Dec. 15.

It can be used on both medium-range and long-range routes, and has good jet-field landing and takeoff capabilities.

The 990 is powered by four General Electric aft-turbofan jet engines. It is the first jet transport designed specifically to take advantage of the turbofan pure jet engine with accompanying advantage in thrust and fuel economy.

Astro Club to Hear Gerrity

Maj. Gen. Thomas P. Gerrity, commander, Air Force Ballistic Systems Division, will be featured speaker at the Jan. 17 meeting of General Dynamics / Astronautics Management Club in the International Room, El Cortez Hotel, San Diego.



Gen. Gerrity

His address on "Base Activation" will concern construction of launch facilities for Minuteman and Titan ICBMs as well as the Atlas project.

Base activation (Dept. 600) is program sponsor with arrangements the responsibility of Director P. M. Prophett, E. J. Huntsman, J. S. Harrison, J. A. Rose, R. T. Damm Jr. and E. H. Schmidt, chairman.



SWISSAIR VISITORS—E. J. Schmidheini (right), Swissair chairman of board, and A. O. Baltensweiler, executive vice president, prepare to board Convair 990 for recent demonstration flight at San Diego plant. First delivery of 990 to Swissair is set for this week.

B-58 Capsules Eject Safely In Double Shot

Two B-58 escape capsules safely ejected one second apart from a rocket sled clocked at 115 mph on a high-speed track at Air Force Flight Test Center this month.

The first double ejection of the rocket-powered escape capsule dramatically demonstrated that a pilot and another crew member can carry out an almost simultaneous ejection.

Capsules were fired from the first (pilot) and middle (bombardier-navigator) stations of the three-cockpit sled, which is shaped like the front part of the B-58 bomber fuselage.

Both capsules, containing man-sized dummies, parachuted safely to earth 12 seconds after being blasted 250 feet up from the speeding rocket sled.

"Preliminary reports indicate that if men had been in the capsules they would have emerged unhurt," said Capt. Vernon W. Hodges, B-58 capsule sled test project engineer.

The test is among a series being conducted on the ground and in the air with dummies at subsonic and supersonic speeds by the center at Edwards AFB, Calif.

Another in-flight subsonic capsule ejection, possibly more, will precede ejection of an Air Force volunteer flying at Mach .8 at 20,000 feet.

Tartar Destroyer To Be Commissioned

The USS Lawrence (DDG-4), a Tartar-armed destroyer, is scheduled to be commissioned Saturday (Jan. 6) at Philadelphia Naval Shipyard.

General Dynamics/Pomona, prime contractor for the Tartar surface-to-air missile, will be represented at the ceremony by C. D. Cornell, assistant to the president. Cornell, on behalf of the company, will present a set of ceremonial missile stanchions to the ship.

The USS Lawrence, an Adams class destroyer, will be the ninth Tartar-armed warship to join the Navy's growing fleet of missile ships.

NEWS in Four Pages Because of Holidays

This issue of General Dynamics NEWS is in four pages, and the same edition appears at all western divisions because of the reduced production time due to year-end holidays. The NEWS will return to its regular size and multi-edition appearance with the Jan. 17 issue.

Dozen Scholars To Win Awards

Competition which may net a $6,000 scholarship for an employee's son or daughter through the General Dynamics National Merit Scholarship program is now under way.

High school juniors who expect to graduate in 1963 and who are children of any General Dynamics employee can take the first step by registering for the National Merit Scholarship test administered by most high schools in March.

Application must be made through the student's high school in advance of testing date.

All children of regular General Dynamics employees who have completed at least two years of continuous service with the company by end of year prior to scholarship presentations are eligible.

Children of deceased or retired employees are also eligible.

Supplanting former Convair Sons Scholarships, General Dynamics has increased its participation under the NMSC program to provide 12 awards to be apportioned among various divisions.

Scholarships range from $1,000 to $6,000 sliced over 4 years of college. Each stipend is determined by family financial circumstances; how much can be provided for the student's education by the parent or student; and the school's cost.

J. L. Budros, General Dynamics director of personnel administration, said awards may be used for general collegiate study in any field. (Formerly, Convair scholarships were restricted to top male scholars for use in fields of engineering or an allied science.) They now are open to girls, as well as boys.

"These scholarships, under regulation of the National Merit Scholarship Corporation, are more flexible and equable than any which can be conducted by indi-

(Continued on Page 2)



SIGN-UP—Vice President Lyndon B. Johnson, left, approves General Dynamics "Plan for Progress" as Allen D. Marshall, Dynamics vice president, signs for Corporation.

Corporation 'Progress Plan' Signed in Capital

General Dynamics Corporation has joined other major government contractors in pledging stepped-up action in the field of equal employment opportunity, Earl D. Johnson, Dynamics president, announced this week.

Acting for the Corporation, Allen D. Marshall, Dynamics vice president and secretary, signed a "Plan for Progress" in Washington, D. C., recently, along with representatives of other companies, among them Aerojet-General, Aerospace Corp., American Bosch Arma, Avco, Hughes Aircraft, Northrop, Thompson Ramo Wooldridge and Westinghouse. Previous signers included Lockheed, Western Electric, Boeing, Douglas, Martin, General Electric, United Aircraft and North American Aviation.

Vice President Lyndon B. Johnson, chairman of the President's Committee on Equal Employment Opportunity, commended companies for participation and reported that the program now covers approximately 1,250,000 employees.

Each company developed its own Plan for Progress, in cooperation with the Committee, but all plans include some features in common, involving increased efforts to hire qualified minority group applicants, equal opportunity in transfers and promotions, and plant facilities available to all regardless of race, creed, color or national origin.

In a joint statement, General Dynamics and the President's Committee reported that Dynamics has submitted statistical data on its personnel, and explained in detail its Merit Employment Policy, principles of which have been in effect for many years, as the Committee recognizes.

(Dynamics President Earl D. Johnson last summer by executive

(Continued on Page 2)

Supervision Holds 'Merit' Responsibility

Implementation of the "Plan for Progress," as well as General Dynamics' continuing Merit Employment Policy, is the responsibility of executive heads of Dynamics divisions. The senior vice president-industrial relations, R. H. Biron, is responsible for policy guidance, coordination, follow-up and interpretation.

"Each Corporation supervisor is responsible for making the Merit Employment Policy effective in all of his relationships with employees," Dynamics President Earl D. Johnson pointed out.

Corporation Plan Signed

(Continued from Page 1)

order reaffirmed Corporate policy in this field (General Dynamics NEWS, Sept. 13, 1961) as in line with national principles proclaimed by President Kennedy.)

In regard to an annual review of progress attained, the joint statement concluded: "The President's Committee recognizes that the equal employment opportunity goal is a long-range undertaking. It also recognizes that our objectives may not be carried out at a uniform rate or manner throughout the Corporation because of a number of factors over which General Dynamics has no control, and such circumstances must not be construed as denoting lack of progress."

Generally, in regard to employment, Dynamics agreed to continue to practice non-discrimination in promotions, layoffs and other terminations, downgrades and recall from layoff; and will maintain all facilities, such as eating facilities and rest rooms, on a non-segregated basis.

In recruitment, Dynamics agreed to request government employment service for minority group referrals and will make recruitment visits to schools and colleges where minority group applicants may be found. Also, the Corporation will continue to cooperate with schools in minority group neighborhoods in programs designed to raise the level of aspirations by sending speakers to school assemblies, inviting students on plant tours, encouraging parents to urge their children to remain in school to prepare themselves for better positions, etc.

In training, Dynamics will continue to support vocational training programs with special emphasis in minority group neighborhoods; and will review in-plant training programs to insure that minority group members have an equal opportunity to participate, based on merit, ability, capacity and other qualifications required of other employees.

POMONA ARCHERS REMINDED OF SHOOT

Archers at GD/Pomona are reminded that absence from the Jan. 13 shoot will result in removal of their names from the mailing list. Awards for the last six months of 1961 will be presented, according to Commissioner Elmer J. Dahlstrom.

Brothers Are Both School Presidents

Sons of a General Dynamics/Electronics-San Diego executive are heading toward political careers, if their campaign successes in school are any indication.

Bill and Tom Rauth, sons of W. R. Rauth, GD/Electronics manager of customer requirements, both hold titles of president—Bill, 17, as president of La Jolla Junior-Senior High School Associated Student Body, and Tom, 14, as La Jolla junior high president!

Daingerfield's Steger Will Head Coin Club

Daingerfield Division's P. P. Steger (Dept. 8) has been named president of the E Pluribus Unum Coin Club for 1962, succeeding L. A. Yaggi (Dept. 5).

Steger is the third president the Daingerfield Division has provided the club. Division Manager J. E. Arnold was its president prior to Yaggi.

The club meets on the first Monday night of each month at the First National Bank in Longview. Other club members from the Daingerfield Division are: C. E. Roberson (Dept. 3-3), V. W. Vickers (Dept. 3-4), J. W. Nix (Dept. 3-3), J. F. Christian (Dept. 5) and Dr. E. C. Kennedy (Dept. 2).

Hustler Shakedown Set For Mid-Jan.

Shakedown flight on Hustler No. 42, being converted to carry an additional bomb load under its delta wing, has been rescheduled for mid-January.

Following the flight, No. 42 is scheduled to conduct a series of performance demonstrations on the new configuration B-58 out of Kirtland AFB, New Mexico.

POMONA AND ASTRO TEAMS TO MEET

The General Dynamics/Pomona-Astronautics team tennis match will be held Jan. 13 at Morley Field in San Diego. First match will start at approximately 10 a.m.

ASTRO MANAGER AT NORTON NAMED

D. J. Saunders will manage the GD/Astronautics resident office at the Air Force Ballistic System Division headquarters, Norton AFB. Saunders and his staff are located in Bldg. 524, Rooms 413 and 414.



JOURNEYMAN—J. H. Thompson, at right, General Dynamics/Electronics-San Diego manager of manufacturing, congratulates Lawrence D. Rutherford, latest graduate from GD/Convair four-year apprenticeship program. Rutherford is now employed in GD/Electronics machine shop.

General Dynamics NEWS

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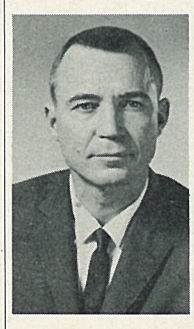
Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226/5279. Staff: James Combs Jr., editor; Carol Colbert. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

Four V-Ps Named By Dempsey

Four program directors, Charles S. Ames Jr., Sam L. Ackerman, Krafft A. Ehricke and William Van Horn, have been named vice presidents at General Dynamics/Astronautics by J. R. Dempsey, president.

Ackerman (electronic products), Ehricke (Centaur) and Van Horn (Atlas) will continue to guide their respective organizations. Ames fills a newly-created post of space launch vehicle program director.

Ames joined Astro's parent organization in 1946, became chief design engineer for Atlas in 1954, chief project engineer in 1957 and Atlas program director in



C. S. Ames Jr.



S. L. Ackerman



K. A. Ehricke



Wm. Van Horn

1960. For the past year he has directed other Astro space programs.

Ackerman came to Astro in 1956 as a senior electronics group engineer responsible for range safety and trajectory measurements for Atlas. In 1959 he became program director for electronic products.

Ehricke joined Astro in 1954 as a design specialist, became chief of preliminary design and systems analysis, assistant chief engineer and then Centaur program director.

Van Horn came to Astro in 1957 as a master scheduler, was appointed manager of long range planning in 1958 and took charge of the Atlas program in 1961.

National, Foreign Affairs on Program

"The New View in '62" will be the theme of the Jan. 12 meeting of the General Dynamics/Pomona Management Club at Mountain Meadows Country Club.

The national outlook for 1962 will be presented by Dr. Proctor Thomson, professor of economics at Claremont Men's College. The international view will be given by Dr. Peter Rhone, professor of political science at the same school.

GD/Convair Mgt. Club To Convene Jan. 17

A National Management Association sponsored speaker, Dr. Leonard Freedman, will address members of GD/Convair's Management Club Jan. 17 at Stardust Hotel, San Diego.

Born in London, England, Dr. Freedman received his B. S. from London University and his M. A. and Ph. D. from UCLA.

January's meeting is sponsored by operations planning departments.

GD/FW Club to Hear Communication Talk

Dr. Wesley Wiksell of Louisiana State University will speak on "U and I of Communication" at Management Club's "NMA Night" meeting Jan. 18 in grand ballroom of Hotel Texas.

Social hour will begin at 5:15 followed by dinner at 6:15 p.m.

Dept. 25 (plant engineering) is sponsoring.



NUCLEAR FACILITIES—Lt. Gen. W. H. Blanchard, Air Force Inspector General, is briefed by Dr. H. R. Dvorak, GD/FW chief of nuclear research and development, during recent tour of FW's Nuclear Aerospace Research Facility.

AF Inspector General Views Atom Facilities

Lt. Gen. W. H. Blanchard, Air Force Inspector General, was "favorably impressed" with GD/Fort Worth's Nuclear Aerospace Research Facility following a recent inspection tour.

Dr. H. R. Dvorak, GD/Fort Worth's chief of nuclear research and development, said General Blanchard examined the facility's aircraft shield test reactor, ground test reactor and reactivity test assembly "in some detail."

Dr. Dvorak reported that analytical studies and experimentation were being carried on at Fort Worth's nuclear facilities on about 20 programs in various fields.

Biggest chunk of business is a $2.5 million contract for basic nuclear research and support of Air Force nuclear systems development.

Dr. Dvorak said these funds are being used for study and development of nuclear-powered air and spacecraft, and include studies in shielding, space radiation, effects of radiation and other similar research.

GD/Fort Worth nuclear engineers are also working in these areas:

Radiological protection for a U. S. Army vehicle.

Problems of protection from space radiation, and research problems associated with operation of nuclear-powered space vehicles for National Aeronautics and Space Administration.

Nuclear detailed instrumentation for ARENTS, a satellite being built by GD/Astronautics.

Shielding effects of snow and ice against fallout, being conducted at Camp McCoy, Wis.

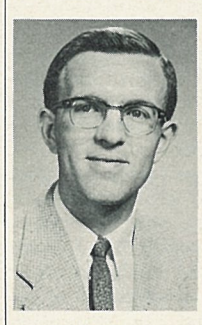
Development and production of radiological instruments involving nuclear rocket, ramjet and submarine programs.

Safe operation of nuclear reactors operating in aerospace vehicles.

Scientists Join FW Laboratory

Three young scientists, each of whom holds a Ph. D., recently joined General Dynamics / Fort Worth and have been assigned to the Applied Research Laboratory headed by Dr. E. L. Secrest.

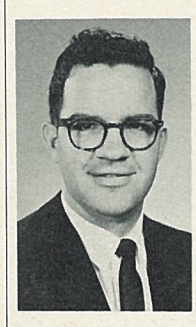
They are Drs. Joseph Lawrence Strecker, Daniel Morgan Gibson Jr. and Bobby Charles Deaton.



B. C. Deaton



J. L. Strecker



D. M. Gibson Jr.

Dr. Strecker received his doctor's degree in theoretical physics and applied mathematics from Johns Hopkins University this year. He was graduated from Rockhurst College in Kansas City, Mo., in 1955.

Dr. Gibson received a B. S. degree in mechanical engineering from Texas A&M in 1953, a master's in mechanical engineering and mathematics from the same college in 1958, and his Ph. D. from Princeton this year.

Dr. Deaton received two degrees in physics from Baylor University and a fellowship as research scientist at the University of Texas, where he received his Ph. D. in physics this year. He was engaged in research and assistant teaching at both universities while working toward his degrees.

Dozen Scholars To Win Awards

(Continued from Page 1)

vidual organizations," Budros commented.

Students who attain high scores on the March exam become "semi-finalists" and are asked to take the College Board Examinations in December of their senior year. Those who repeat their high scores become "finalists" for the General Dynamics awards.

In addition, "semi-finalists" are asked to have their high schools submit recommendations combined with detailed descriptions of the students' extracurricular activities.

General Dynamics also makes grants to private schools chosen by winners to help make up the difference between tuition costs and actual school expense.

Additional information may be obtained from following locations at the various divisions:

GD/Convair — Educational services, Plant 1.

GD/Astronautics — Educational services.

GD/Electronics — GD/Convair educational services, Plant 1; Information Technology Section, Les Eischen, 1895 Hancock St.

GD/Pomona — Educational services.

GD/Fort Worth — Educational services.

Medearis Appointed Supt. at GD/Astro

H. C. Medearis, veteran General Dynamics supervisor, has been named superintendent of product support department's support center at GD/Astronautics.

Medearis joined the Convair organization in 1941 and rose through the ranks of various factory departments.

Replacing Medearis at Vandenberg AFB is E. A. Millar, formerly chief of operations support at Edwards Rocket Site. L. M. Barnes, a general foreman at Vandenberg AFB, has shifted to Edwards RS to replace Millar.

Redeye Shoulder-Fired For President Kennedy

Firing a Redeye missile is no more hazardous than "driving to work," according to 1st Lt. Francis M. Dongieux Jr., first man in the Army to fire a guided missile from his shoulder.

Dongieux shoulder-fired the Army's new Redeye air defense weapon during a special Army program Oct. 12 for President Kennedy at Ft. Bragg, N.C. Redeye is being developed for the Army and Marine Corps by General Dynamics/Pomona.

"The only special thing about it was that the President was watching," Dongieux said.

Although Redeye had been launched before, and soldiers will be firing the missile from their shoulders soon as a matter of routine, Dongieux was the first to fire the weapon as a combat infantryman would — without special body armor and face protection worn in testing.

Dongieux fired two at Ft. Bragg for practice. Then, on the morning of Oct. 12, the program announcer told the President and his party: "The gunner on your left front will now fire a Redeye Missile."

Dongieux set his feet, shouldered the missile launcher and began mentally calling off the few pre-firing checks as he activated the missile resting next to his head in its fiber glass launch tube.

"I guess you might say the traditional hush settled over the audience," he said. "One sure settled over me. I even heard the battery hissing in the missile, and I never had before! I knew it was going to go, but man, it was quiet.

"I saw the missile was going downrange right where it was supposed to, then I turned and walked away."

Major H. L. Claterbos, USMC, Redeye project chief, was standing by with another round, and Don Mather and Carl Snyder of General Dynamics/Pomona (both engineers assigned to Redeye) were also present.

Dongieux, who is from Yazoo City, Miss., is a Redeye project officer at the Army Rocket and Guided Missile Agency at Redstone Arsenal, Ala.

Now in advanced development, Redeye is a two-stage solid fuel missile with a heat seeking guidance system, carried and fired from a fiber glass launch tube.



FOR THE PRESIDENT—Army 1st Lt. Francis M. Dongieux Jr. fired Redeye missile for President Kennedy Oct. 12 at Ft. Bragg, N. C., becoming first ever to fire true guided missile from shoulder without body armor and face protection. Enlargement from data film shows missile in flight.

San Diego-Born Pilot Logs Most Hours In Convair-Built F-102 Jet Interceptors

A San Diegan, Capt. Charles J. Scharf, claims the most hours logged by any active duty Air Force pilot in Convair-built F-102s.

Capt. Scharf, based with the 4th Fighter-Interceptor Squadron at Misawa Air Base, Honshu, Japan, went over the 1,250-hour mark in September of this year.

He was the first Air Force pilot to log 1,000 hours in the F-102, setting that record a year ago, in the fall of 1960.

A native of San Diego, he attended Hoover High School and was a San Diego State College graduate with class of 1954. He entered the Air Force in 1955, first assigned to the 318th FIS, McChord AFB, Wash., flying F-86Ds.

Capt. Scharf was transitioned into the F-102A at Vincent AFB, Yuma, Ariz., March, 1957. Early in 1960 he was transferred to the 4th FIS. One of his first assignments was temporary duty as instructor pilot for the F-102 transition program of the 199th FIS Hawaii Air National Guard, Hickam AFB.

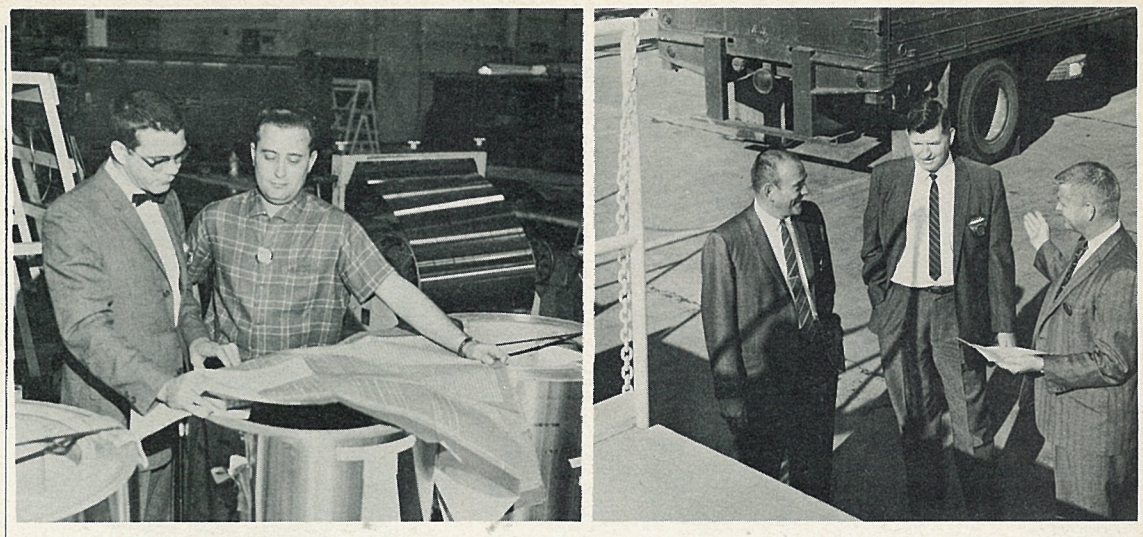
He is presently instructor pilot and squadron functional test flight pilot at Misawa.

General Dynamics/Convair field service representatives assigned to the 4th FIS are A. C. Shedrick and Hal Beckwith. Coincidentally, Shedrick was with the 318th FIS at Yuma when Capt. Scharf checked out in the Convair jet interceptor.

Recreation Building Contract Awarded

Contract for construction of a 30 by 60 ft. Butler-type building at Daingerfield Recreation Association's recreation center on Ellison Reservoir has been awarded to Gateway Steel Buildings, Inc., of Texarkana, Tex.

Total estimated construction cost will amount to approximately $3,000, and the building should be completed around Feb. 1, N. H. Moore, manager of industrial relations and security, said. One end of the building will be brick, and will house several fireplaces and barbecue pits.



BIG DOLLAR SAVERS—At right, J. L. Bigley, center, originator of CIP expected to save almost $2 million, discusses proposal with W. H. McNabb and N. E. Webb, all of GD/Astro Dept. 331. In photo at left T. F. Ryan, assistant supervisor, and J. C. Maroney discuss latter's ES which will save GD/Astro $4,660 in sheet metal expense.

New CIP Slated to Save As Much as $2 Million

All records since inception of the Cost Improvement Proposal (CIP) program have been smashed with approval of a CIP with estimated savings of $1,723,747 per year at General Dynamics/Astronautics.

The proposal, submitted by J. L. Bigley, Dept. 331-1, topped the previous record-breaker initiated earlier this year by Astro's J. V. Dickson, on which savings were estimated at $1,078,000.

Basically, Bigley's pace-setting idea called for establishment of a "back yard" where excess test ground support equipment could be stored in "as is" condition.

In the past, surplus test group support equipment was sent to disposition stores for salvage, or refurbished to "like new" condition under a specific contract. Since funds for refurbishing were limited, this course was frequently impossible, and equipment was not available when a subsequent, unanticipated need arose.

Bigley submitted his proposal under the motto "Store Now—Rehabilitate Later," which keynotes the system's operation. Excess or unserviceable items now go to a "dead storage" yard where they are protected from further deterioration by preventive maintenance.

If a subsequent need arises, items are restored to operable condition and rushed into service with considerably less time or expense than procurement of new material would require.

The $1,723,747 savings expected from this proposal are based on a conservative estimate. Some predictions ran as high as $2,027,938 saved per year!

Any salaried employee may submit constructive suggestions in the form of Cost Improvement Proposals. A record of approved CIPs is placed in the originator's personnel file and is considered in connection with performance reviews.

In addition, CIPs resulting in extraordinary savings earn their originators nomination for the annual President's Award.

For hourly employees, a similar Employee Suggestion (ES) program is in operation, with originators receiving cash awards for approved suggestions. This is normally 10 per cent of the savings expected to result from the idea in its first year of use. Minimum award is $10.

Recent "big-money" winner at GD/Astro was J. C. Maroney, Dept. 833-1, who will receive $466 and a certificate of merit. Maroney suggested that sheet steel used in fabrication of missile gores and gore skins be purchased in dimensions which would eliminate waste in trimming.

The idea set off a chain of thinking on the subject which led to purchase of the steel in coils rather than sheets, and will result in annual savings estimated at $4,660.

Pomona Supervisor Will Address IRE

H. F. "Tom" Sawyer, packaging techniques group supervisor at General Dynamics/Pomona, will speak Jan. 17 to Orange Belt sub-section, Institute of Radio Engineers.

His subject will be "Electronic Packaging and Micro-miniaturization as Applied to Missiles." The meeting, starting at 7:30 p.m., will be held in Room 215, Science building, California State Polytechnic College.

Sawyer spoke on the same subject Dec. 18 at a meeting of the Riverside-San Bernardino sub-section of the American Institute of Electrical Engineers, and he is scheduled to deliver a similar talk Jan. 18 at a meeting of the Southern California Meter Association in Long Beach.

Safety, Housekeeping Race Close at Astro

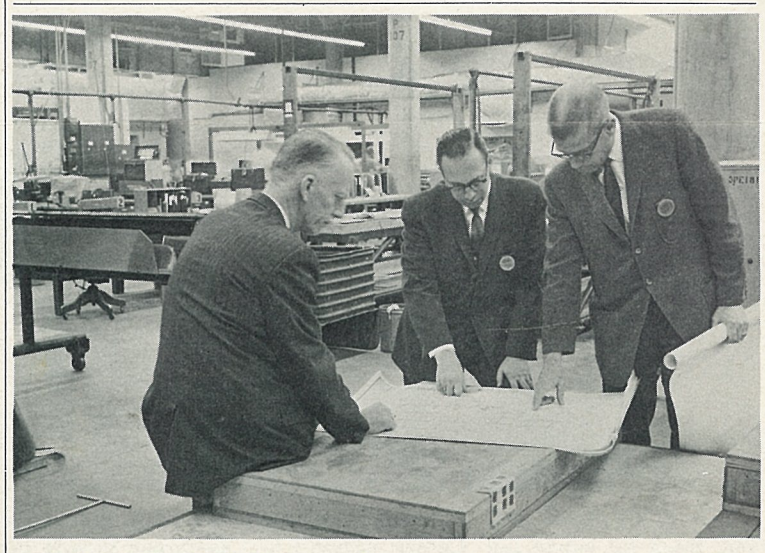
Perfect safety and housekeeping records in GD/Astronautics monthly plant competition for November were scored by sheet metal (Dept. 732), tool and die (Dept. 452), and major assembly (Dept. 758).

Sheet metal led the trio with perfect accident-free records for two consecutive months, while major assembly is leading contender for the 1961 annual safety and housekeeping award with 16 points earned to date.

The annual contest will be decided on the basis of December reports, still being tabulated.

BROTHERS MEET IN NET FINALS

Chuck Anderson defeated his brother Bill, the defending champion, in the GD/Pomona plant tennis finals Dec. 17.



PLANNING SESSION—Looking over layout of new GD/Electronics-San Diego manufacturing area in Bldg. 51, Plant 1, are (from left) L. A. Dean, architect; H. L. Gates, GD/Electronics manager of operations; H. C. Murray, GD/Electronics manager of facilities control.

GD/E at San Diego to Consolidate, Center Activities Within Bldg. 51

Consolidation of all General Dynamics/Electronics-San Diego functions at Plant 1 under one roof is slated with relocation of manufacturing operations early this year.

Electronic manufacturing will be moved into a redesigned area on the ground floor of Bldg. 51, announced William Lawrence, GD/Electronics-San Diego general manager. This move will see all engineering, production, and testing personnel of GD/Electronics' former Military Products Division housed in Bldg. 51 at Plant 1.

For over a year electronic fabrication has been conducted in the GD/Electronics production area, southeast section of Bldg. 4, Plant 1.

The new 34,700-sq. ft. laboratory in the east half of Bldg. 51's first floor is scheduled for occupancy this spring. It will bring the division's total San Diego facility space to more than 138,500 sq. ft.

Engineering now occupies the second floor of the building with an antenna range and checkout facility on the roof.

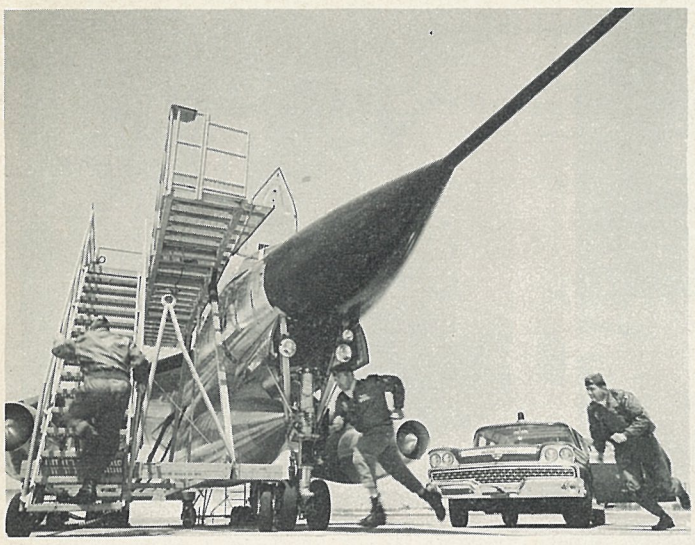
The new manufacturing area will provide "hospital" cleanliness conditions, allowing GD/Electronics-San Diego to compete with any firm in the United States in precision fabrication of electronic and electro-mechanical instruments, Lawrence emphasized.

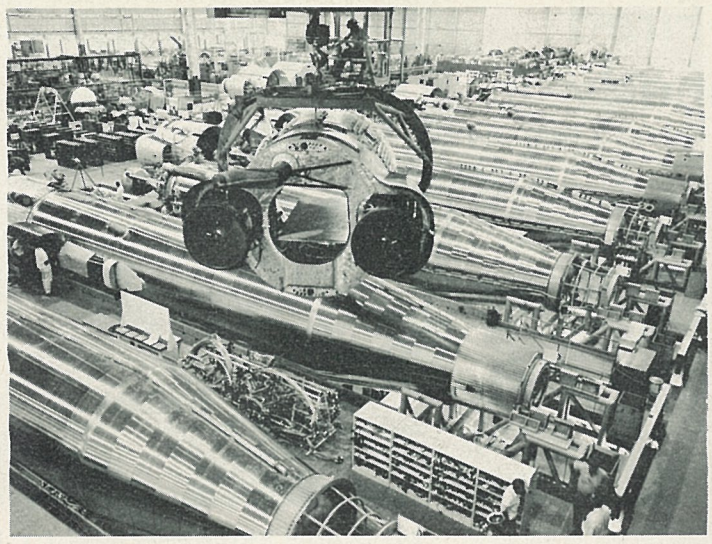
After remodeling, the area will have complete temperature, humidity, and dust-controlled atmosphere. Air locks will be installed as entrances to special ultra-clean rooms where precision work is in progress.

Paderewski, Mitchell, Dean and Associates, San Diego architect firm, is advising on redesign of the manufacturing area.



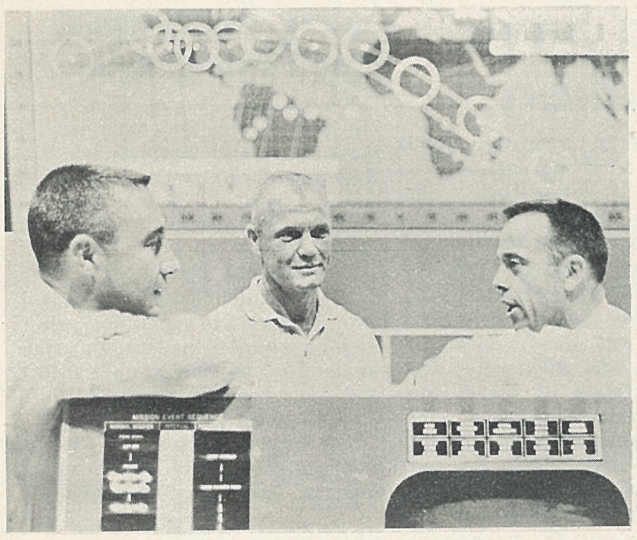
"Gosh! Are they really that big in this pond?"



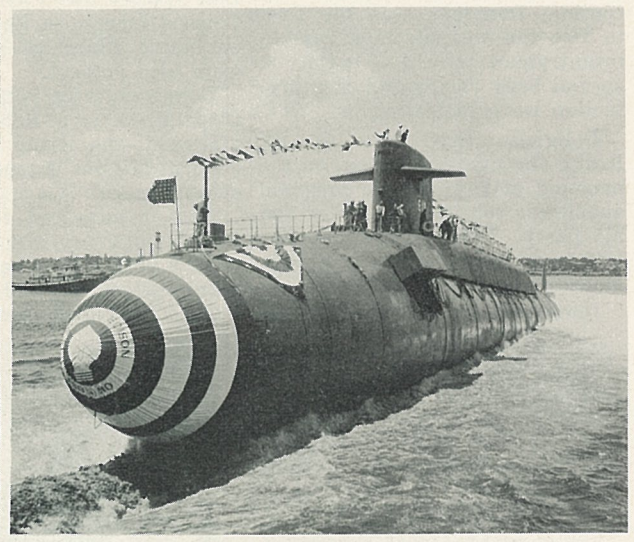




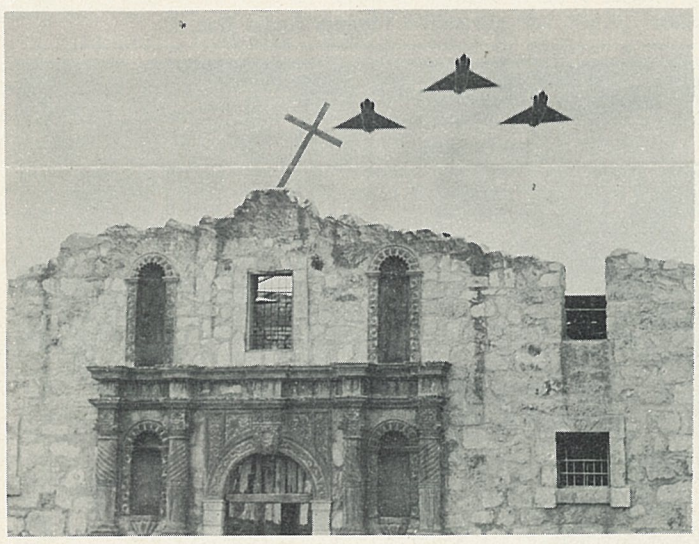
HIGHLIGHTS OF 1961—General Dynamics products made many a news picture in 1961. On this page are but a few. Above left: combat crew of B-58 Hustler (built by GD/Fort Worth) "scrambles" to battle stations. Center: overhead crane moves booster section of Atlas missile (built by GD/Astronautics) along row of "birds." Right: Marine holds Redeye ground-to-air missile weapon developed at Pomona where Dynamics also builds Terrier and Tartar missiles.



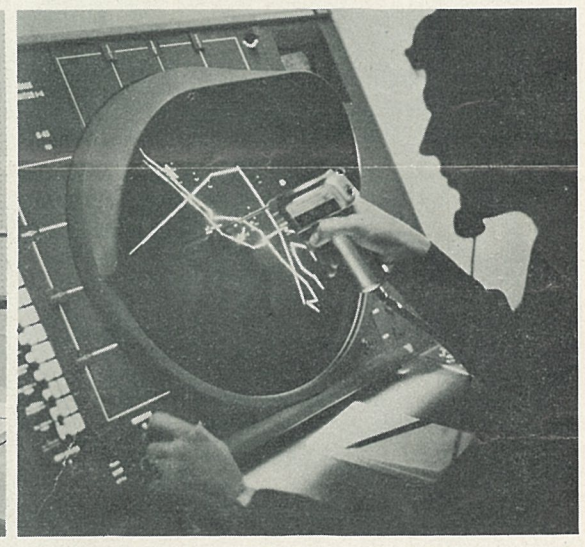




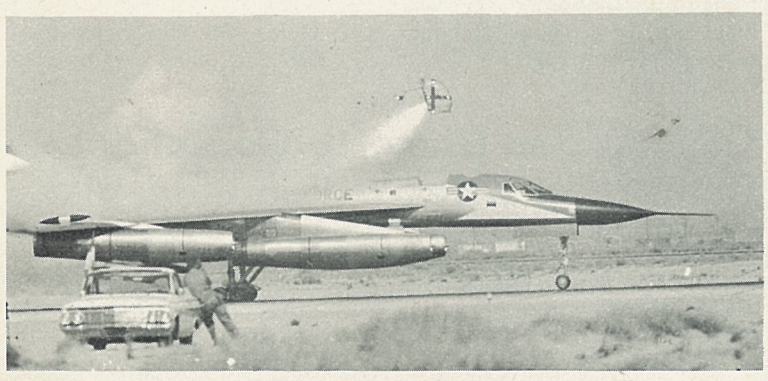
Left: in Project Mercury Control Center at Cape Canaveral, Astronauts Virgil Grissom, John Glenn and Alan B. Shepard discuss space flights. Center's control and display system was designed and built by GD/Electronics-San Diego. Center: CF-104, built by Canadair Limited, is shown with billowing drag chute on landing at Montreal. Right: one of number of launchings at GD/Electric Boat Division was that of Thomas A. Edison, one of new class of Polaris submarines.







Left: F-102s (built at GD/Convair) from Kelly AFB zoom over replica of famed Alamo (built for movie set). Center: nation's first electronic private branch telephone exchange (built by GD/Telecommunication at Rochester) went into commercial operation in 1961. It is called DYNALOGiC. Right: GD/Electronics' "Charactron" shaped beam tube is heart of display console used in SAGE air defense system. Airman uses light gun to pinpoint blip.



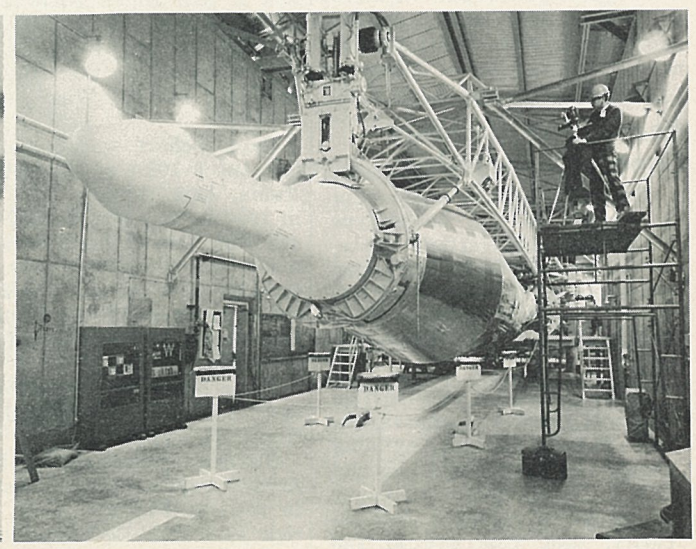




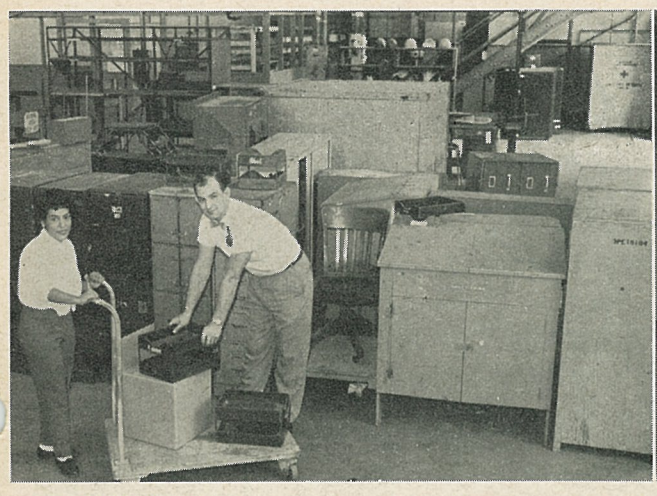
Left: B-58 escape capsule rockets from Hustler speeding down Edwards AFB runway in early test. Center: T/Sgt. James A. Howell, AF parachutist, first man to eject from F-106 via supersonic escape system. Right: spectacular photo shows dummy being ejected from speeding F-106.

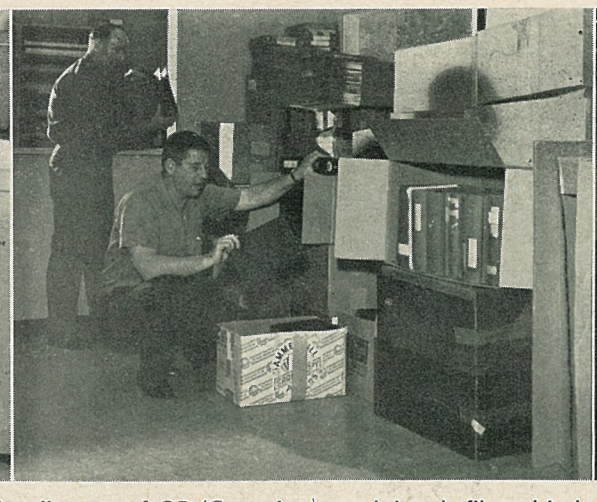


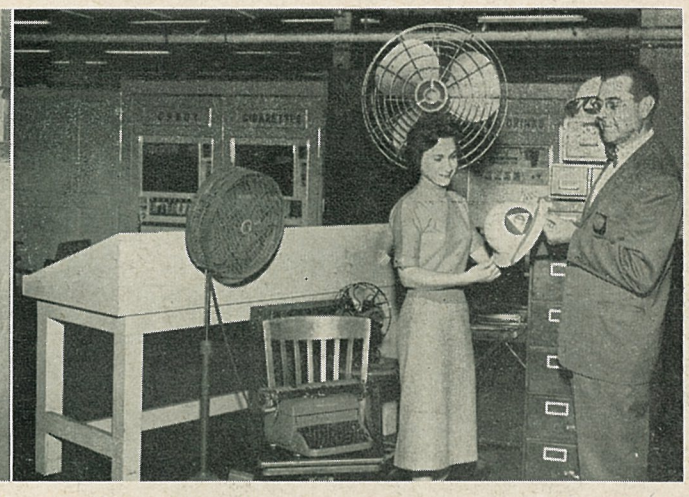




Left: widely published in 1961 was this photo of GD/Convair 880-M jet participating in FAA slush tests to prove icy weather performance. Center: in Flying Tiger Line colors is this majestic Canadair-built CL-44 freight plane. It is distinguished by novel "swing-tail" that opens fuselage for easy loading. Right: among launch facilities for GD/Astro-built Atlas missiles declared operational during 1961 was this one at Offutt AFB.







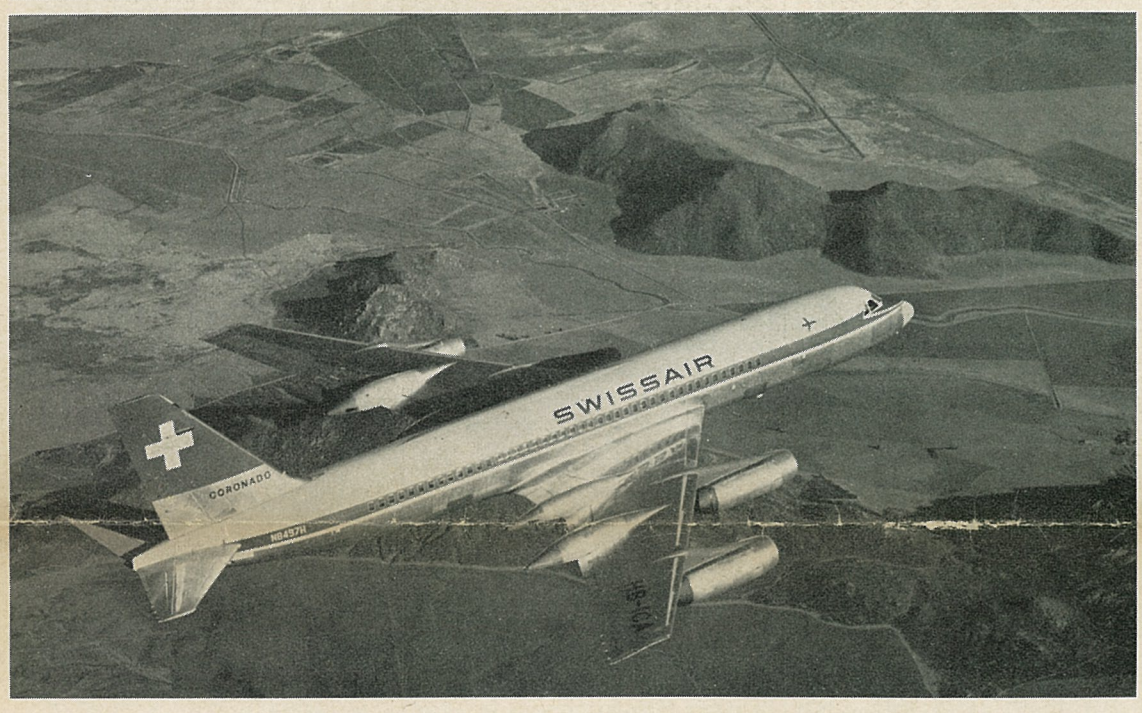
HOUSE CLEANING—Scenes such as these were seen in all parts of GD/Convair during last month's conservation program. At left, Sally Pena, riveter in experimental, helps F. S. Bender, Dept. 31 assistant foreman, gather surplus office equipment; center, Laudie Rieder and Reginald Mills, engineering supply clerks, stack up reclaimed files, binders in Bldg. 51 engineering stockroom area; right, R. H. Gilliland, chief of quality assurance, and secretary Chris Wilson, look over obsolete Civil Defense hats uncovered in Bldg. 33 clean-up. Year-end drive put tons of surplus equipment back into use, saving hundreds of thousands of dollars.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 2 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | 52 | Wednesday, January 17, 1962



SWISSAIR'S FIRST—First Convair 990 Coronado, intercontinental version of newest jetliner, went last week to Swissair for use over far-flung network. This is initial delivery of seven 990 Coronados on order by Swissair. American Airlines was first airline customer to receive 990s this month.

GD/Convair Aims Sales Campaign At Subcontracts

General Dynamics/Convair is aiming a hard-hitting drive toward subcontract and subsystems business designed to restore the division to self-supporting status.

J. H. Famme, in his first general report to employees since his appointment as GD/Convair president last month, revealed that the division currently is bidding upon more than 70 individual contracts that together total more than $115 million.

"Naturally, we can hope to gain only a percentage of this business—and we won't gain even a percentage if our bids are not low enough to be within the 'zone of consideration,'" Famme continued.

Famme emphasized that the division is not withdrawing from the prime contractor field, but is supplementing its activities with subcontracts.

"The future of this division rests upon our ability to again become self-supporting, and we intend to achieve this by first establishing ourselves as a low-cost, quality subcontractor. Our fixed costs are higher than some of our competitors, so it means we must be imaginative and extra sharp in finding ways to operate more economically. Our success depends upon this," he said.

The business upon which GD/Convair is bidding ranges from major subcontracts to services and support tasks, and manufacturing research and development. Many of the contracts sought are connected with prime contracts held by other airframe builders. Not all are in aircraft, however. Several are missile tasks and at least one involves vehicles. By far the majority are comparatively small contracts. Two of the pieces of business sought account for about $80 million of the total being pursued.

"We have a lot to offer potential customers, in plant facility and skilled personnel. However, in the final analysis the customer is interested in how much the product is going to cost him," Famme continued.

"If we can bid competitively, and produce on time at a profit, the business is there for the

(Continued on Page 2)

'Reclamation' Drive Nets Tons Of Equipment

Tons of reclaimed material worth hundreds of thousands of dollars have gone back into circulation as a result of General Dynamics/Convair's year-end conservation drive.

As departmental reports continued to pour in last week, total value figure of at least half a million dollars was well within sight, said C. H. Hahn, cost reduction supervisor.

Final report on the December campaign will be submitted to J. H. Famme, GD/Convair president, on Jan. 26.

So far, 62 per cent of all departments have reported 5,464 articles returned for reissue. Of these, 4,315 were factory equipment and 1,149, office equipment.

Dollar value was set at $303,736.

Still unreported are 31 departments out of the total of 82.

Surplus items returned from production areas included such expensive tools as drill motors, rivet guns, portable rivet squeezers, bench vises, test equipment.

Office equipment included tape recorders, typewriters and stands, metal file cabinets, desks and chairs, floor fans, ditto machines. Several telephone extensions and instruments no longer needed were cut out, reducing telephone charges. (One extension line costs $100 a year.)

In addition to items with tangible dollar values, tons of stationery supplies were returned

(Continued on Page 2)

18 Qualify During '61 For President's Award

Eighteen flat-salaried people at General Dynamics/Convair have put nearly $1 million into the company's "saving account" during the last year.

Each of the 18—17 of them men, and, for the first time, one woman—is eligible for the 1961 President's Award, top honor paid annually for cost reduction activities.

C. H. Hahn, cost reduction supervisor, pointed out that together these candidates have saved the company $956,381, or almost half of the total cost reduction program savings for the year of $1,924,805.

The President's Award, which has been presented each year since 1954, is usually given at a spring meeting of the company's Management Club. To be eligible, each candidate must post savings of $25,000 or more.

Winner receives an individual bronze plaque and has his name engraved on a similar perpetual plaque in the operating division manager's office; a certificate facsimile; and a $250 merchandise gift of his choice.

Now in the running for the honor and cumulative savings are: W. J. Gibson, Dept. 140, $115,722; R. W. Chambers, Dept. 192, $100,005; O. W. Sweetland, Dept. 400, $78,625; C. F. Uhl, Dept. 160, $77,485; W. R. Holmes, Dept. 6, $60,033; R. G. Bond, Dept. 97, $58,050; Mattie C. Ross, Dept. 16-9, $57,133; J. L. Byer, Dept. 34, $47,798; L. W. Stamper, Dept. 129, $46,577; D. P. Germeraad, Dept. 6, $45,577; J. G. Sheldon, Dept. 14, $42,500; S. L. Cushman, Dept. 146, $38,189; J. A. Dematteis, Dept. 91, $37,527; K. R. Meli, Dept. 190, $33,871; L. F. Cescolini, Dept. 140, $30,084; W. Martin, Dept. 31, $30,056; E. E. Carpenter, Dept. 129, $31,039; and D. R. Wilson, Dept. 129, $26,110.

GD/E and GD/Convair Courses Will Begin

Registration is open for in-plant courses scheduled for GD/Convair and GD/Electronics for the spring semester.

Classes, all held outside of working hours, will start the week of Jan. 29. Application must be made by Friday (Jan. 26) through educational services offices, Bldg. 15, Plant 1. L. W. Turner, ext. 491, is coordinating the program.

A new course, offered for the first time, is Blueprint Reading—Electrical and Electronic. Another new course, Practical Engineering Writing, is tentatively scheduled.

Other classes will be held in Basic Blueprint Reading, Basic Slide Rule, Basic Electricity, Basic Electronics, Basic and Advanced Technical Writing.

W-2 Form Mailings Begin at San Diego

Mailing of W-2 forms to General Dynamics people whose accounts are handled by GD/Convair began yesterday (Jan. 16), said J. L. Terrien, GD/Convair accounting payroll supervisor.

Forms should be in the hands of hourly and flat-salaried personnel of GD/Convair, GD/Electronics, Advanced Products, and hourly General Office by the end of the week.

The W-2 forms must be attached to all income tax returns.

PAPERWORK STUDIED WITH EYE ON CUTS

All paperwork and reports issued by every department within General Dynamics/Convair is coming under close management scrutiny in an effort to eliminate unnecessary duplication.

J. H. Famme, GD/Convair president, has initiated a program to impose tight controls aimed at reducing quantity and cost.

Systems and procedures, responsible for activation of the program, kicked off the drive with a one-day report roundup seminar the end of last month. Attending were some 20 monitors appointed to assist supervisors in evaluation of reports and paperwork.

According to C. K. Twohey, systems and procedures supervisor, the number of reports should be cut by at least a fourth, with potential saving to

(Continued on Page 2)

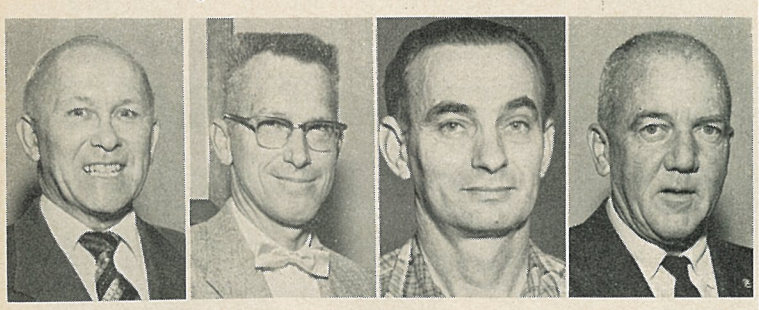


BRIEFING—Report monitors, responsible for streamlining GD/Convair paperwork, receive instructions from C. K. Twohey, systems and procedures supervisor, at capsule seminar.

Log Book Entries



CONGRATULATIONS—Completing 30 years service with GD/Convair last month were E. T. Gahlbeck, Dept. 144 (left), and A. E. Rominger, Dept. 31. They received service emblem and gift of their choice from President J. H. Famme.



TWENTY-FIVE-YEAR MEN—Recently awarded 25-year service emblems, from left, W. B. Wimer (Dept. 13-1), M. M. Doerr (135), A. A. Duncan (171) and H. B. Gimber (292-5). Presentations were made by R. A. Neale, GD/Convair vice president and general manager.

Service Emblems

CONVAIR

Service emblems due during the period Jan. 1 through Jan. 15.

Thirty-year: Dept. 101, Emil Heckman.

Twenty-five-year: Dept. 31, J. D. Powers; Dept. 48-09, Edgar Caldwell; Dept. 129, M. B. Fuhrmann; Dept. 140, D. A. Jones; Dept. 160, Harry Bolton; Dept. 401-5, J. L. Williamson.

Twenty-year: Dept. 3-0, D. C. Wilkens Jr.; Dept. 6, R. H. Browning, Gale K. Sherman, W. J. Wood; Dept. 8-4, M. F. Van Osdoll; Dept. 14-1, R. C. Zinser; Dept. 16-7, W. F. Strasburg; Dept. 31, V. A. Contreras, Billy Luffe; Dept. 48, W. H. Davis, L. I. Fredrickson.

Dept. 135, Julian Rubalcado; Dept. 140, M. M. McCaskey; Dept. 145, J. J. Oren; Dept. 146, C. W. Park; Dept. 180, A. I. Cox, M. W. Walker; Dept. 400-1, A. W. Hall Jr.; Dept. 401, A. V. Benesch, Jerry Kudrna, C. F. Martin, W. C. Rivas.

Fifteen-year: Dept. 6, C. E. Dietz, R. H. Wasilewsky; Dept. 14-4, F. J. Light; Dept. 31, G. G. Nunez; Dept. 137, H. W. Jackson; Dept. 138, J. W. Chance; Dept. 142, Anthony Camilla; Dept. 146, W. O. Pringle, Frank White; Dept. 160, A. H. Peavey; Dept. 192-4, M. G. Mercer; Dept. 205, J. O. Parr; Dept. 216, Vera C. Cobb; Dept. 400, Salvatore Giaquinta, D. B. Tucker; Dept. 401, M. W. Nelson, T. C. Rasmussen.

Ten-year: Dept. 2-0, J. M. Pasternack; Dept. 3, Marjorie F. Brawner, D. E. Goff, R. M. Oldham, H. D. Tarr; Dept. 6, Leona G. Ciara, Bertha T. Davis, H. M. Stocker, E. R. Woods; Dept. 14-4, J. A. Chavez, F. L. Dewey, Frances M. Sewell, Henrietta H. Weaver; Dept. 15-4, D. R. Maxion, Patricia B. Mullen.

Dept. 21, Bush George, Ruble Hensley Jr., F. P. Mora, G. C. Tsaousis; Dept. 24, E. W. Manning, W. O. Walker; Dept. 25, E. H. Elias, Alphonso Sly; Dept. 31, E. F. Bliss, R. J. Hogan, Terry Nishida, J. D. Prevost; Dept. 34-1, H. O. Kinkel; Dept. 44-3, Betty W. Wilson; Dept. 45-1, J. J. Borrego; Dept. 48-11, Virginia S. Villarino; Dept. 50-10, I. H. Van Horn Jr.; Dept. 91, Beverley J. Lyons, Eleanor I. Simpson.

Dept. 109, Jesse Wyatt; Dept. 120, Mable L. Mossberger; Dept. 129, Bessie M. Moss; Dept. 133, Robert Gordon, Doris H. Tedder; Dept. 137, Katherine L. Marx, S. E. Moon Jr.; Dept. 138, J. N. Norris; Dept. 139, Olive Cramsey, E. E. Holland; Dept. 140, G. W. Smith; Dept. 141-1, F. K. Irwin.

Dept. 142, M. H. Robinson, Leta M. Schaffer, Marvin Schriock, J. G. Scott; Dept. 146, Forest Hancock; Dept. 148, G. S. Hayes, A. O. Tinker; Dept. 170, B. J. Whiting; Dept. 171, V. H. Larson, L. P. Pena; Dept. 192, E. W. Avlon, R. P. Gonzales, Josephine H. Hoyt, J. L. Kent, W. R. Munney, Louise K. Rogers; Dept. 215, Alice K. Gay, D. R. Wilson; Dept. 216, Irene G. Palmer; Dept. 218, H. S. Butcher; Dept. 400-6, S. A. Hoxsey; Dept. 401-4, C. H. Ross.

ADVANCED PRODUCTS

Ten-year: Dept. 986-3, L. E. Jolley.

HOLLOMAN AFB

Twenty-year: Dept. 313-4, C. W. Westmoreland.

Births

CONVAIR

JOHNSTON—Son, Russell Byron, 10 lbs., 1 oz., born Nov. 26 to Mr. and Mrs. Bob Johnston, Dept. 6.

LARSEN—Daughter, Laura Gail, 6 lbs., 15½ oz., born Dec. 20 to Mr. and Mrs. Donald T. Larsen, Dept. 6.

McCARTHER—Daughter, Julie Ann, 5 lbs., 6½ oz., born Dec. 5 to Mr. and Mrs. Joe McCarther, Dept. 15-4.

SWINDALL—Daughter, Carrie Louise, 7 lbs., 3 oz., born Dec. 29 to Mr. and Mrs. Dudley F. Swindall, Dept. 21-2.

Retirements

CONVAIR

AUTTERSON—Gordon A., Dept. 215. Seniority date Sept. 9, 1953, retirement effective Dec. 29, 1961.

BOYER—Emile J., Dept. 48-11. Seniority date Oct. 9, 1952, retirement effective Dec. 29, 1961.

CLARK—Charles O., Dept. 31. Seniority date Aug. 31, 1944, retirement effective Dec. 15, 1961.

DEVEREAUX—F. S., Dept. 48-21. Seniority date Sept. 28, 1950, retirement effective Dec. 30, 1961.

HENRY—John, Dept. 140. Seniority date Oct. 25, 1951, retirement effective Dec. 29, 1961.

HERR—John F., Dept. 170. Seniority date Nov. 9, 1950, retirement effective Dec. 29, 1961.

HJELM—Oscar W., Dept. 215. Seniority date Nov. 4, 1953, retirement effective Dec. 29, 1961.

LEFEBVRE—Charles, Dept. 24-2. Seniority date Oct. 13, 1952, retirement effective Dec. 29, 1961.

PABST—William, Dept. 91-8. Seniority date Oct. 6, 1941, retirement effective Dec. 29, 1961.

ROSETE—Julian, C., Dept. 218. Seniority date Jan. 10, 1951, retirement effective Dec. 29, 1961.

Promotions

CONVAIR

Promotions to or within supervision effective Dec. 18, 1961.

Dept. 17-0, Marketing: To senior requirements engineer, J. R. Burtt, P. L. Ward.

Dept. 171, Field Operations: To assistant foreman, J. V. Leras, L. H. Wilson.

HOLLOMAN AFB

Dept. 313-0, Model 8 Flight Operations: To flight test group engineer, W. B. Pieper.

GD/ELECTRONICS

Effective Jan. 1.

Dept. 1, General Manager's Office: To legal counsel, J. A. Moore Jr.

Dept. 6, Manufacturing: To assistant foreman, R. J. Hogan.

Dept. 7, Material: To M/C assistant supervisor, R. W. Emmett.

Dept. 11, Contracts: To manager of contracts, J. P. Syren.

Dept. 12, Industrial Relations: To manager of industrial relations, H. C. Howe.

Personals

CONVAIR

My sincere thanks to the thoughtful friends of mine at Convair Plant 1, especially those in Depts. 400 and 401, who gave so generously of their services during my mother's illness and after her passing, for those who served as pallbearers, and for the beautiful floral offerings.

Mrs. Virinda Lamb (ret.), formerly Dept. 401.

* * *

The family of Robert A. Manzer wishes to express their gratitude for the thoughtful and generous gestures made by his many friends at Convair during the family's recent time of grief.

Deward F. Manzer.

Lost & Found

CONVAIR

LOST—Contact lenses in gold container Jan. 11 between Bldg. 8 and Overpass 2. Finder please call Marie Baker, Dept. 8-4, ext. 1467, Plant 1.

General Dynamics NEWS

Published by General Dynamics Corporation, covering divisions based at San Diego and Pomona, Calif.; Fort Worth, Texas; and off-site bases; with editorial headquarters at San Diego 12, Calif., P.O. Box 1950, telephone CYpress 6-6611, ext. 1071, Logan Jenkins, editor-in-chief.

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Astronautics Editorial Offices, Bldg. 8, GD/Astronautics, Mail Zone 130-01, P.O. Box 1128, San Diego 12, Calif. Telephone BRowning 7-8900, ext. 3322. Staff: Bryan Weickersheimmer, editor; Willard Harwood.

Convair Editorial Offices, Bldg. 32, Plant 1, GD/Convair, Mail Zone 1-320, P.O. Box 1950, San Diego 12, Calif. Telephone CYpress 6-6611, ext. 1071. Staff: Grayce Fath, Helen Pemberton.

GD/Electronics (San Diego) news contacts: Info. Tech., Helen Wood, CY-8-8331, ext. 11; Milit. Prod., Betty Freeby, CY-8-4641, ext. 1377.

Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: James Combs Jr., editor; Carol Colbert. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

Subcontracts Convair Aim

(Continued from Page 1)

taking. The answer is as simple as that."

Famme reported that Corporate approval has been obtained for the immediate aim of a return to profitable operations via the subcontract route, as quickly as possible with the minimum of cash requirement.

Convair has faced "lean and hungry" times before and its hard core of top-flight personnel has brought the division through successfully, Famme recalled.

"It can be done again, but not by praying for miracles. We must make our own miracles, and do a lot of hard selling," he added.

Redoubled efforts of marketing personnel have been evident for some months and Famme indicated that even more intense effort will be expected in the next few critical months. Direct sales pressure will be supplemented by a resumption of advertising and widespread distribution of capabilities brochures in key industrial points. The latter are detailed, illustrated pieces that emphasize GD/Convair's capabilities in such fields as "experimental manufacturing and processing," "honeycomb and metal bond," "ground handling and overhaul," "manufacture support," "quality control," "Scotchweld bond," "machine shop," "sheet metal; fabrication," "plastic parts," "applied manufacturing research and process development," etc.

Drive Nets Tons Of Equipment

(Continued from Page 1)

to central areas in each department. Thousands of binders, calendar holders, file dividers, folders, desk trays, blotters, ink pads and stamps, pencils, pens, erasers, staple removers, are now on hand.

"Every item returned means just one less that would have to be purchased," said Hahn, who with J. J. Ireland, chief of systems and procedures, organized the conservation program.

Each department list will be put into the form of a Cost Improvement Proposal to record its saving during the program. CIPs will be credited to each department as a team effort and count toward cost reduction goals for 1962.

Students Warned To Register Again

All General Dynamics/Convair people who attended California Western University under the cooperative GD/Convair-Cal Western plan last semester must establish eligibility if they plan to continue.

Supervisors and non-represented flat-salaried people already in the program are asked to report in person to educational services offices, Bldg. 15, Plant 1, on Jan. 23 or 24 between 8 a.m. and 4:45 p.m.

At that time they will be asked to fill out pre-registration forms establishing current eligibility before second semester registration.

M. S. Lachman, executive development administrator, will give additional information. He may be reached on ext. 2568, Plant 1.

Deaths

CONVAIR

FERGUSON—Henry, Dept. 102. Died Jan. 2. Survived by wife, Irma, two sons, daughter.

HENDRIKSEN—Carl R., Dept. 400. Died Dec. 27. Survived by wife, Phyllis.

MANZER—Robert A., Dept. 34. Died Dec. 23. Survived by wife, Myrtle F., three sons, two brothers, sister.

SHAPINS—Bert, Dept. 25. Died Dec. 22. Survived by wife, Mary.

TOMS—Nolan, Dept. 14. Died Dec. 31. Survived by wife, Georgia, two sons, daughter, brother.

WESSEL—Harold R., Dept. 215. Died Dec. 23. Survived by wife, Cleo, and four children.



HONG KONG BOUND—Walt Kinney, R. E. Nixon, Jim Eschwege, Paul Philp wave good-bye to wives as they board plane at Lindbergh Field on first leg of journey to Hong Kong. They will conduct 880-M maintenance training there.

Customer Service Reps. Leave To Help Airlines With Jets

Customer transport service representatives are moving out from General Dynamics/Convair home base to support Convair 990 jetliners as they go to first customer airlines.

Glen Arner left for Tulsa, Okla., before the holidays to take over his new post as resident field service representative at American Airlines Engineering and Maintenance Center.

W. M. Anthony, J. R. Crenshaw, V. E. Korski are now stationed at Idlewild airport, New York City, to assist in American's extensive pilot training program and on-job training for maintenance personnel.

Other GD/Convair representatives will be covering American's bases where 990s will be stationed as soon as scheduled passenger service begins this spring.

Don Maxion, who coordinates customer transport service maintenance training at the San Diego plant, has been in Zurich, Switzerland, this month to brief Swissair training groups in latest 990 technical information. Field service representatives based at Zurich are Frank Laffoon, Ed Buckman, Mart Addis.

Four special courses instructors left early last week for Hong Kong to conduct 880-M maintenance training courses for Hong Kong Aircraft Engineering Corp., in charge of maintenance for Cathay Pacific Airlines. Instructors are R. E. Nixon, W. W. Kinney, P. M. Philp, J. B. Eschwege.

In other shifts, Harry Addis has been assigned to Hong Kong as field service representative. His duties at Tainan, Formosa, with Civil Air Transport which has an 880-M in service, have been assumed by Dave Weitzman.

PAPERWORK STUDIED WITH EYE ON CUTS

(Continued from Page 1)

the company of a quarter of a million dollars a year.

An estimated $1,750,000 is spent each year for preparation, material, reproduction, distribution of the 500 interdepartmental reports logged.

And, interdepartmental reports make up but a small part of total number distributed, explained Twohey. According to a recent survey, 2209 data processing reports are issued at different intervals, and 169 government and industry reports. There is no record of the number of internal department communications since they have not been logged up to this time.

Regulations now in effect, complying with the revised SP-1-11, require all departments to fill out an analysis sheet on each report issued. This information will help determine cost and value of each, and whether it can be simplified, improved, or discontinued.

A complete summary on all company reports and possible reduction of volume will be compiled by the first of next month, said Twohey.

Report monitors and departments under their jurisdiction are: M. V. Clark, industrial relations; R. E. Wilkenson and Dave Moser, material; J. Drew Smith, planning; J. E. Gott, service parts; Tom Mathews, Vern Mathews, R. C. Appel, engineering; J. A. Dempsey, communication; H. R. Franson, quality control; Paul Hamm, R. J. Haney, C. L. Pogorel, operations planning; D. K. Campbell, manufacturing control; A. M. Van Horne, tooling; L. F. Boring, factory production; J. J. Jodka, K. K. Verseckes, cost accounting; Lewis N. Cole, general accounting; H. D. Smith, budgets; R. R. Bullock and J. J. Soldo, estimating; R. L. Howard, transportation; R. L. Reilly, data processing; W. W. Hass, controller's office.

GD/Electronics Taking Part in Value Sessions

Second value engineering seminar under General Dynamics/Convair's continuing value control program opened Monday for a two-week run.

General Dynamics / Electronics people, including Information Technology personnel, are joining in the current seminar. Of the 11 teams working on assigned projects, three are made up of GD/Electronics supervisors from engineering, manufacturing, tooling, purchasing, material operations.

At the opening session, J. H. Famme, GD/Convair president, and William Lawrence, GD/Electronics general manager, stressed importance of the program in its application to all Corporation efforts.

E. D. Heller, value control coordinator at GD/Pomona, outlined and defined value control and its functions.

Directing the seminar, which concludes Jan. 26, is H. P. Williams, GD/Convair value control manager. Project leaders are C. Wells Christie, GD/Electronics engineer; and S. W. Swenson, engineering; G. E. Nuss, tooling; L. W. Stamper, production; J. E. Blain, material, all of GD/Convair.

Williams said that 70 executives of GD/Convair and GD/Electronics will be taking a condensed version of the indoctrination at the same time.

As value control principles are stressed within the company, 21 actual recorded projects are coming under scrutiny on a cost vs. value basis, he continued. Also, Williams is collaborating with J. M. Adamson, project manager of the C-141 empennage contract, in supervising value control applications from point of preliminary design.

INFO TECH WIVES MEET ON ISLAND

First meeting of the year of the Wives Club of Information Technology group of General Dynamics/Electronics was held last week at Shelter Island Inn.







RIDING ON AIR—Friction-free bearing developed at GD/Astronautics is demonstrated. At left Barbara Barbat whirls on disk built for human requirements group. Center: Pat Nobles is "towed" by T. A. Herbert, using thread. Right: Barbara moves 15,000-lb. load, supported by 20-in.-square bearing, with finger push.



SMOOTH SAILING—Inventors T. A. Herbert and Earl Christian use breath to propel "passengers" standing on friction-free bearing device developed at GD/Astro. New concept is based on "floating" heavy objects on thin cushion of air or other inert gas. Compressed air is fed to bearings at low pressure.

'Friction Free' Bearings Produced Through Use of Compressed Air

Imagine moving a loaded railroad car with one hand, or shifting a refrigerator at the touch of a finger!

Recent disclosure of a friction-free bearing and levitation device produced by General Dynamics/Astronautics applied manufacturing research and process development (Dept. 290) brings these and other Samson-like feats into reality.

In a joint effort, E. L. Christian, project engineer, and T. A. Herbert, manufacturing research supervisor, conceived the idea for the bearing, and early last year designed and built a prototype.

From this, several models have evolved, and found application in tasks ranging from welding to space-age research.

The bearings eliminate friction by "floating" objects to be moved on a thin cushion of air or other inert gas. No oil or other lubricant is ever needed because surfaces are always separated by a layer of air while in motion.

"Compressed air from factory supply or from portable bottles is fed to bearings at low pressure," Christian explained. "On each bearing surface are a series of small channels or 'tributaries' which trap the air to force the bearing away from the surface on which it rides."

A 20-by-20-inch test bearing recently supported a 15,000-pound load, which—after starting inertia was overcome—required only ounces of force to move freely.

Although the load was unbalanced, exactly .0001-inch clearance was maintained between bearing and surface.

In an early application, a flat friction-free bearing was used to support a 770-pound steel plate on a drill press work table. One man then manipulated the heavy plate while drilling a multiple-hole pattern.

Production-scale welding of extremely thin materials became possible when friction-free bearings were installed in a new carriage built for a straight-line welder.

Where the original carriage was moved over 10 roller bearings by a gear drive, the new model floats along on four air bearings propelled by a rubber roller.

The smooth-riding "airborne" carriage permits welding of material only .003-inches thick—actually thinner than inherent movement through vibration, "flutter" and back-lash found in the original device.

The air bearings quickly caught the eye of GD/Astro human requirements group (Dept. 147-6) which had long sought a means to study human ability to control weight (perform simple tasks) without the attraction of gravity.

Christian supplied them with two "space scooters"—a stool and matching work table mounted on friction-free "feet." When stool and table are placed on a smooth surface, test subjects find the bearing-supported scooters skid crazily at their slightest shift or radical movement.

The coefficient of friction for the scooters (force required to keep them in motion) was less than .00000167 (less than one-tenth gram) as measured on the most delicate scale available at the time of testing.

A rotary bearing, built for the same group, is used in related research.

A modified version of an air bearing almost 12 feet in diameter is now in use at the bottom of GD/Astro's hydrochemical forming tank. It acts as an air cushion to protect the pool structure from damage during forming operations.

"By increasing the bearing surface area, and the pressure of air or gas it receives, there is no limit to the amount of weight friction-free bearings can support," said Herbert.

Heavy machinery can be shifted easily by jacking it up and slipping a friction-free bearing under each corner as a levitation device. Bulldozers, factory equipment and even missiles can then be moved about easily by only one man.

In a test of one bearing, 3,000 pounds were towed along by one man pulling on a piece of sewing thread, while in another demonstration, an equivalent weight glided smoothly along with nothing more than the inventors' breath as a motive force.

Proper Handling of Materials Emphasized in New Course

Proper handling of materials—a subject whose significance is often overlooked in the fast pace set by modern production methods—is receiving new emphasis at General Dynamics/Astronautics.

At the request of F. J. Parker, GD/Astro's chief of stores and traffic, Fred Sevey of educational services (Dept. 130-3) now conducts regular classes in the subject.

"Of every manufacturing dollar some 22 cents are spent on material handling—processing, moving and storing the product," Parker explained. "Damage to that product at any time before it reaches the customer can skyrocket production costs."

While the first students enrolled in the class are material (Dept. 833) employees directly concerned with material handling as their primary job, Parker emphasized that all GD/Astro employees have definite responsibilities.

"The man who stacks a heavy box on top of fragile items is as guilty of poor handling procedure as the fork-lift operator who drops a case of fragile instruments," he said. "Material handling involves everyone from management on down."

This responsibility applies not only to perfect units ready for delivery to the customer. Frequently mishandled are new items tagged by inspectors with a "failure and consumption inspection report" (IR form).

"Appearance of this sheaf of papers on an item doesn't mean the unit is worthless," Parker stressed. "Often only a few cents' worth of repairs can place it in perfect condition, and it should be handled accordingly."

Sevey prepared the 7½-hour course with the assistance of Marvin Gutzka and A. J. Talberg of applied manufacturing research and process development (Dept. 290). They have also assisted during class sessions which are held daily, five days a week.

Class subjects include handling methods, packaging, loading, cleanliness, equipment, transportation and safety.

"But our main objective is to get students to think," Sevey said. "Ever notice how the bread is always placed at the top of your grocery bag? That's common sense — and good material handling."

By mid-February, some 250 material department employees will have attended the classes. After that time, the course will be made available to other departments.



BRIGHT EXAMPLE — Sandra Pearson, 17, daughter of GD/Astro's Walter Pearson (Dept. 250-1) displays sparkle which helped win "Outstanding Senior" title in recent Heartland Parade. Active in many extracurricular activities, Sandra also is honor student at El Cajon High.



QUICK CHECK—R. B. Stangl, chief of vendor research and evaluation, checks out product in GD/Fort Worth's vendor microfilm library. Machine can "thumb" 200 pages a second.

'TV' Micro Reader Gives Fast Information On Capabilities of Thousands of Vendors

Buyers and engineers at GD/Fort Worth can find out about a vendor and his product simply by switching on "television" and viewing a microfilmed report.

The "TV" is a reader in which a 4x4-inch cartridge, containing literally volumes of microfilmed information, can be fed and read.

A buyer seeking information on "terrain-clearance radar" systems, for example, would insert the appropriate cartridge containing manufacturers of this system. After pinpointing his reference, the buyer simply pushes a button and the reader flips through microfilmed pages to the desired page. A photo reproduction of the page may be obtained in seconds.

Over 70,000 pages of equipment information are now microfilmed, catalogued and cross-indexed by product and company.

To supplement the product/supplier information available from the vendor microfilm file, GD/FW will eventually add supplier evaluation ratings and other pertinent vendor information gathered from a supplier evaluation program.

Similar files at GD/Convair, GD/Astronautics and GD/Pomona Divisions will also swell during coming months due to supplier evaluation programs.

"Each division standardized questionnaires to obtain data on all vendors they've used or might use in the future," explained D. C. Wren, vendor evaluation analyst.

"Information concerning a company's finances, management structure, quality control, engineering talent, past performance, present products, and countless other facts are evaluated, then passed on to other divisions."

Wren feels that GD/FW's vendor microfilm library might well contain detailed information on as many as 50,000 vendors in the near future.



SEA-PAINTERS—Two GD/FW electronics technicians who are also accomplished artists put finishing touches on massive seascape mural in local restaurant. They are John E. Johnson, on ladder, and Charles Herman, both Dept. 75.

Landlubbers

GD/Fort Worth Electricians Painting Seascape in Leisure

Two GD/Fort Worth landlubbers are putting finishing touches on a gigantic seascape mural at Zuider Zee Seafood Restaurant, and their artistry already is attracting favorable critical recognition.

The two Air Force veterans, Charles Herman and John E. Johnson, are second-shift electronics technicians in Dept. 75.

They were commissioned to paint the mural by the restaurant's owner after he had seen other examples of their work.

The mural, 45 feet long and eight feet high, depicts a rocky sea coast, a lighthouse, a sailboat in the distance—and a little boy, who's "lost in all those rocks." Sea gulls soar overhead.

Herman and Johnson became friends through a chance meeting at GD/FW about a year ago.

Both men share a lifelong interest in art. Herman recalls that his first "professional" work in painting was his job as staff artist on the newspaper at Lowry AFB in Denver. He served in the Air Force from 1954 through 1957, coming to GD/FW the following year.

Johnson studied art throughout his school days in Austin, his home town. He served in the Air Force from 1956 through 1960, and joined GD/FW soon after his discharge.

Hinz to Head Office at L.A.

A new General Dynamics Corporation office for the Los Angeles area has been opened to handle program development activities with military and government agencies, K. M. Smith, General Dynamics vice president-program development, announced.

Earl R. Hinz is manager of the office, located at 2100 Sepulveda Blvd. Hinz has been manager of Los Angeles office of General Dynamics/Convair division since it opened last January.

His staff will maintain corporate liaison with West Coast operations of the Air Force, Navy, Army, National Aeronautics and Space Administration, Federal Aviation Agency.

Hinz joined Convair in 1950 as senior engineer and transferred to Astronautics division in 1958 as design specialist in the advanced systems sub-department of engineering. He directed preliminary design and systems studies for advanced applications of the Atlas missile and Centaur.



WINNER—"Little Joan" won CRA Camera Club print-of-year honors at San Diego for Ron Ainsworth, Dept. 6, in annual judging. Photo was shot at 1/5 sec., F/5.6.



SAKE TIME—John W. Knebel, GD/Convair test pilot, and his wife (left) are greeted in traditional Japanese fashion at annual World Airlines Meeting in Las Vegas. Japan Air Lines hostess Fumiko Takakusu serves sake to John Geddes (center) of Pasadena and Dick Yamashita, JAL assistant sales promotion coordinator.

Cernuto Named Aide to Neale

V. F. Cernuto has been appointed assistant to the vice president and general manager at General Dynamics/Convair.

His former duties as manager of production services will be assumed by W. R. Bruce, now director of material and production services, according to an announcement by R. A. Neale, GD/Convair vice president and general manager.

Reporting to Bruce are: E. H. Damarus, chief tool engineer; M. S. Stepich, chief manufacturing control; B. R. Hisaw, chief transportation operations; G. H. Blain, chief contracts and services; G. W. Zahrte, manager material operations; C. M. Gauss, manager material cost; E. F. Monsees, manager subcontract administration; M. Formanek, acting manager procurement.

In other personnel appointments effective this week, W. D. Reed, manager of subcontract, development, and modification production, assumes responsibility for development and modification production department.

Reporting to him are E. O. Johnson, superintendent, subcontract production; N. R. Keough, superintendent development and modification production; C. F. Blair, superintendent special assignments; N. P. Pearson, superintendent C-141 pre-production.

Documentation Group to Meet

General Dynamics members of the newly-formed San Diego Chapter of the American Documentation Institute may make reservations now for the first quarterly meeting.

Date of the first session is Saturday, Jan. 27, at Doric Hotel in Point Loma.

Panel discusion on "What is Documentation?" will be from 3:30-5 p.m. with Thurber Moffett, management systems specialist, GD/Astro, a panel member.

Business meeting will be at 4:45 p.m.; social hour, 5-6 p.m.; dinner and program, 6-8 p.m.

Over half of the group's present membership are General Dynamics people with two General Dynamics men holding offices, W. T. Morris, Astro engineering librarian, secretary; and L. E. Leonard, General Atomic assistant librarian, treasurer.

Reservations and membership information may be had by contacting chief librarians at GD/Astro, ext. 1073, or GD/Convair, ext. 1543.

Class in Spanish Will Begin Jan. 29

General Dynamics employees at San Diego are offered an intermediate class in "Conversational Spanish," beginning Monday, Jan. 29.

Registrations will be accepted on that date in Room 213, Hoover High School. The course, sponsored by the San Diego city school adult education program, is free and classes will continue each Monday at the same location, 6:30 to 9:30 p.m.

J. M. Hardison, GD/Convair Dept. 15, will instruct. Additional information may be obtained by contacting Mr. Bradshaw at the school, AT-2-7683.

880 Jet Hits 697 mph Ground Speed

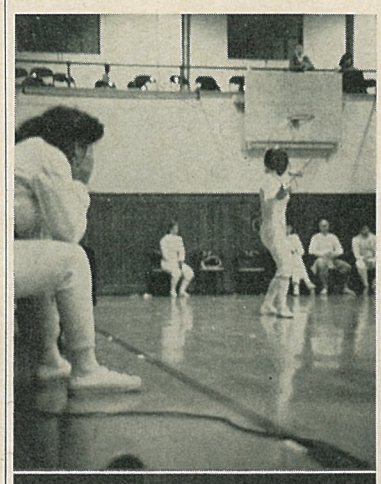
A Delta Air Lines Convair 880 jet transport set an official intercity speed record of two hours, one minute, the first of this month between Chicago and Miami.

The Convair jetliner averaged 625 miles per hour over the 1,259-mile route. Aided by a tailwind which at times reached 87 knots, the passenger jet reached a top ground speed of 697 miles per hour between Louisville and Atlanta. Altitude was 29,000 feet.

En Garde!

'Electrically Wired' Fencers Cross Foils in GD Tourney

More than 50 fencers representing 11 clubs in Southern California took part in the San Diego Invitational Fencing Tournament sponsored last month by the joint ARA-CRA Fencing Club.



Barbara Proppe, Astro daughter, holds spectator attention.

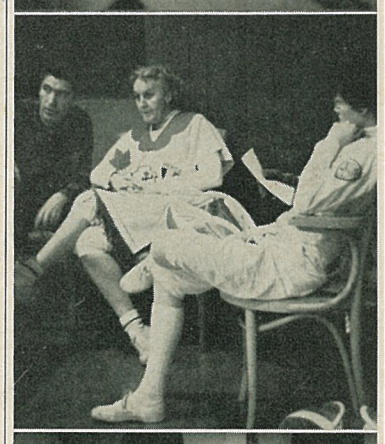
Held at the downtown YWCA, the meet attracted 31 men and 23 women contestants to events running from 1 p.m. until late evening. Finals and semi-finals in the all-foil competition were fenced with electrical scoring equipment for split-second scoring.

Although an internationally popular sport, fencing has its roots deep in history when skill with a sword was the best available "life insurance."

Since then, swordsmanship has become a formal athletic contest with rigidly defined rules for use of one of three weapons.

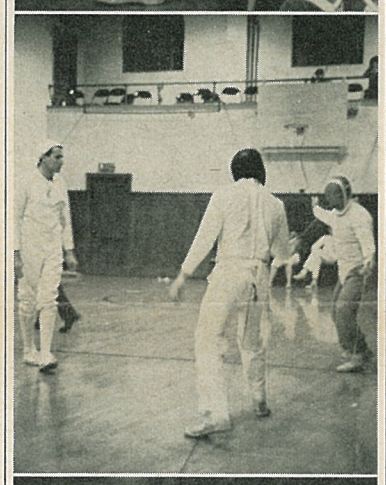
The foil, a light weapon with flexible blade, is an outgrowth of the earlier "court sword."

The epee is a modernized rapier with stiff rectangular blade, while the sabre — which grew from the early broadsword and later cavalry weapon—is slender and flexible for use as a slashing weapon.



Ray McNamara, president of ARA-CRA fencers, discusses bout with Olympic fencer Maxine Mitchell. At right is Audrey Knauer.

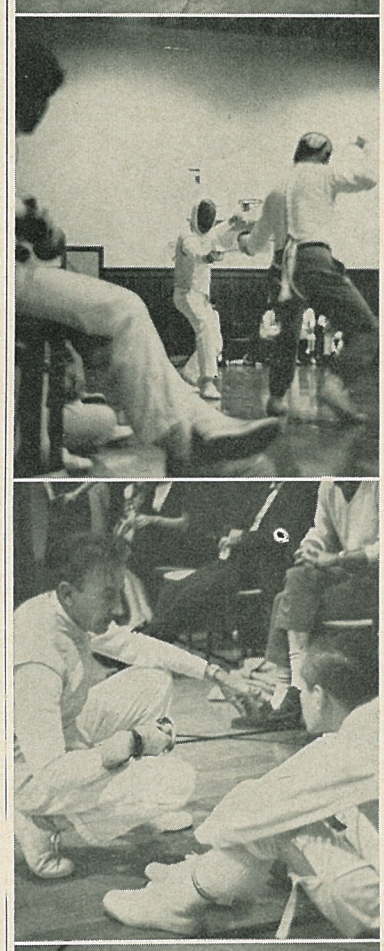
"Modern fencing bears little resemblance to movie 'swash-buckling,'" explained Mike Hurley, ARA commissioner. "Contestants face each other on a six-by-40-foot strip (no furniture allowed) under the eyes of a bout director who serves as judge. Masks and heavy vests are for protection."



Astro's Mike Hurley, as bout director, keeps close eye on action.

Because of the sport's extreme speed which makes judging difficult, an electrical scoring system has been adapted to foil and epee contests. Fencers and their weapons are "wired" to an alarm which sounds to indicate scoring contacts.

The ARA-CRA club now lists about 40 employees and dependents, with members meeting each Friday from 7:30 to 11 p.m. at the San Diego YWCA for practice. Equipment is furnished by the club.

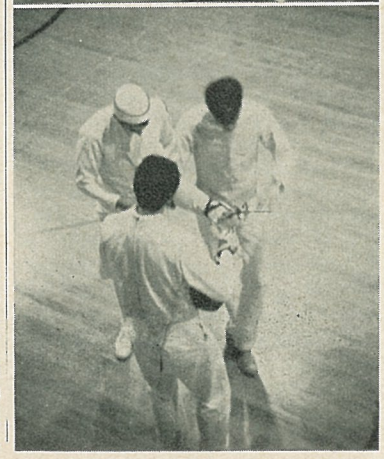


L. E. "Jeep" LaMont faces Capt. Hart Kait, USN.

Ray McNamara is club president, and Pete Beyrer is CRA commissioner.

The recent club-sponsored tournament is one of the largest fencing events of its type in the area and attracted teams from colleges and clubs throughout the southern part of the state.

Barbara Proppe, GD/Astro daughter, won a second-place trophy in the women's event, and Hurley, despite serving as bout director for numerous events and figuring prominently in tournament organization, placed fifth in men's finals.



LaMont (Astro Los Angeles office) advises young fencer.

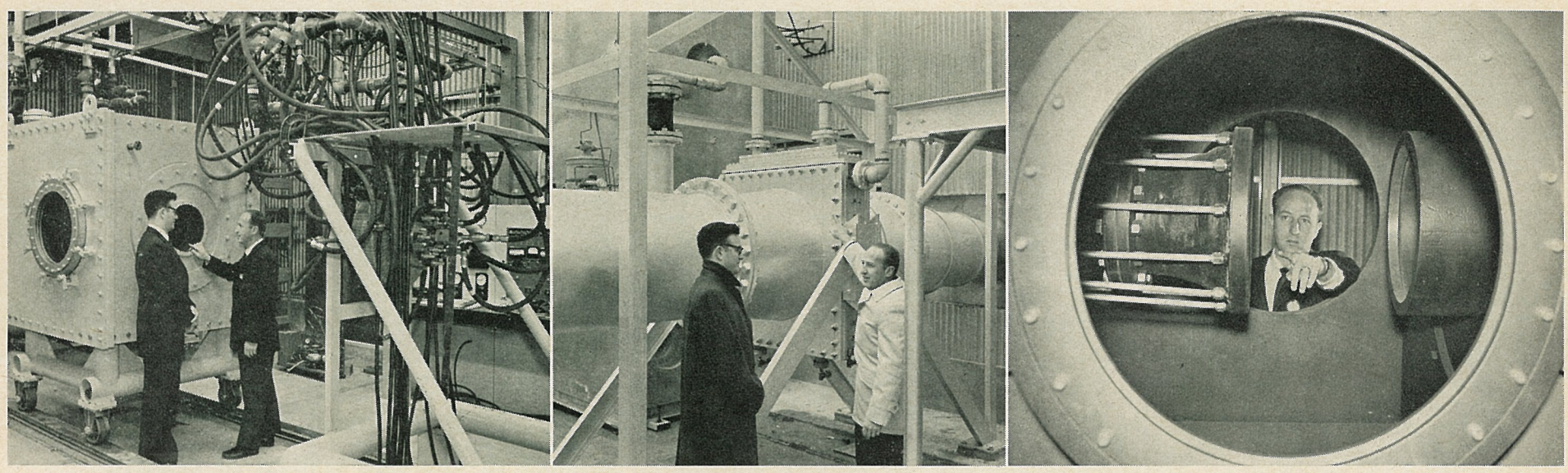
"Both beginners and advanced fencers are welcome at the club's meetings," Hurley said. "Interested employees may contact me at GD/Astro ext. 2857, or Beyrer, GD/Convair ext. 1245, for additional information.

Employees in the Los Angeles area practice the sport under direction of GD/Astro's L. E. "Jeep" LaMont (Dept. 143-5).

Hurley checks electrical scoring during match.

FORTY-FOUR SETS FREIGHT RECORD

Canadair Limited's Forty-Four turbo-prop, in service with Flying Tiger Lines, recently smashed the national record for largest single load of air-freight ever flown transcontinentally when it moved 64,744 pounds of "pay-load" from Detroit to Los Angeles.



HOT WINDS—Hyperthermal Research Facility goes into service this month at GD/Fort Worth. At left, Bob Stevens, project engineer, and H. D. Cooles, design engineer, inspect unit. In center, Stevens points to steam injection system, while at right he indicates "torture chamber" where space plane models will be suspended.

GD/Pomona First Named Guided Missile Division

(This is installment No. 75 in a continuing history of General Dynamics products. It concludes narrative regarding development of Terrier missile.)

Early Terrier production was carried on at San Diego in a reactivated section of Plant 2 until a separate Guided Missile Division (Convair, Division 3) was organized in March, 1953.

Still in infancy stage, the missile industry was given a sharp forward thrust when the Naval Bureau of Ordnance contracted to build the first fully-integrated missile production center in America on a Pomona site owned by Convair.

Ground for the new facility was broken Aug. 6, 1951, and authority for operation placed under the direction of Convair.

The engineering building was ready for preliminary use July 31, 1952. Gradual relocation of related personnel and equipment took place during the next year until the manufacturing building opened for operation in mid-1953.

C. F. Horne, now president of GD/Electronics and GD/Pomona, assumed responsibility for the division's direction July 15, 1953.

Renamed Pomona Division, the original plant was built on 141-acre grounds with 1,286,000 sq. ft. of floor space. The 17-acre manufacturing building was entirely air-conditioned because of the care required in making missiles. Final assembly was conducted in a dust-free room entered only through double-doors.

During early stages of Terrier development, Convair worked independently on another Navy anti-aircraft missile, the Lark. This program originated in the spring of 1945. Vultee Field submitted a preliminary design proposal to the Bureau of Aeronautics in May and received a letter of intent contract June 23. (Fairchild Aircraft was also a Lark contractor and worked separately on developing the missile.)

Convair's Lark (XSAM-N-4) was approximately 16-ft. long with broad cruciform wings and smaller tail fins. Powered by an RMI liquid (acid and analyn) rocket motor, a target-seeking system was developed by Raytheon Manufacturing Co.

Convair designed the control system and auto pilot and moveable wing with tail-fin trimming.

More than 100 of the missiles, which featured two booster JATO bottles mounted in a drop-off tail ring, were built and tested. The contract was terminated in 1948 when the Aeronautics Bureau was removed as an anti-aircraft agency.

Dynamics Men Head Society

General Dynamics engineers hold top posts in the Aerospace Electrical Society of San Diego following reecnt election of officers.

E. F. Kotnik, GD/Convair assistant project engineer, heads the group as president for the coming year. T. W. Ochodnicky, engineering forecasts and estimates supervisor, and W. T. Dorrance, chief aerospace systems engineer, both of GD/Convair, are vice president and secretary respectively.



Top left: T. W. Ochodnicky; top right: E. F. Kotnick; lower left: C. F. McCabe; lower right: W. T. Dorrance.

C. F. McCabe, assistant chief engineer electrical design at GD/Astronautics, is incoming treasurer.

All of the newly-elected officers have an average experience in the aerospace industry of 20 years each. Kotnik has been with GD/Convair for more than 20 years in various line and staff assignments on electrical equipment and system developments from the PBY to the four-engine jet commercial programs.

Other General Dynamics men serving on the executive committee are C. G. Erickson, D. G. Wilson, H. Nicholas of GD/Astro; A. A. Fabbri and E. R. Gauthier of GD/Convair.

First activity for 1962 will be as a sponsoring society of the coming National Engineers week slated for next month.

Information on the local chapter may be obtained from Kotnik, ext. 2432; Ochodnicky, ext. 1164, both Plant 1, GD/Convair; or McCabe, ext. 2244, Astro main plant.

Hours of Poll Tax Collections Set

Poll tax receipts will be on sale in the company cafeteria from 11 a.m. to 1 p.m. and from 3 to 4 p.m. on Jan. 24, 25, 26 at GD/FW.

Representatives from the office of Reed Stewart, county tax assessor and collector, will be available during these hours only.

Employees must use this service only during their lunch period or either before or after regular working hours.

A spokesman from the tax assessor's office said sales would begin and end promptly at the designated hours.

ES Reaches Convair By Special Delivery

Two Empolyee Suggestion originators at GD/Convair didn't trust to luck to see that their ideas reached the right parties.

Cost reduction section received the suggestion form via registered, special delivery mail—with 78 cents postage attached!

In spite of extra handling care, it still took three days (over a recent weekend) for delivery.

FW's New Wind Tunnel Will Simulate Speeds And Heat of Re-entry

A space-age "wind tunnel" for simulating Mach 13 speeds and thermal environment temperatures as high as 15,000 degrees Fahrenheit went into operation at GD/Fort Worth this month.

The new Hyperthermal Research Facility (HRF), located south of experimental building, will be used by GD/FW aerothermodynamics engineers to help solve problems missiles, satellites and other space vehicles face when re-entering the earth's atmosphere.

"HRF is one of the few facilities of its type in the country," said Bob Stevens, project engineer. "It differs from a regular wind tunnel in that it can be used to simulate not only extreme speeds, but the terrific heat generated by re-entry."

A heat-producing plasma generator (so called because a gas becomes "plasma" when heated to extreme temperatures) is nerve-center of the facility. Bottled nitrogen is pumped into the generator and heated instantly as it passes through a high intensity electric arc. Nearly two million watts of electric power can be supplied to the arc. The apparatus is cooled by water.

A secondary gas, oxygen, is injected into the stream to form simulated air, which then rushes into the test chamber through a nozzle at speeds as high as 7,000 miles an hour.

After flowing past a model suspended in the test chamber, the hot air is passed on to a heat exchanger, then through vacuum ducts and ejectors.

Objects as large as six inches in diameter and 12 inches in length can be tested for as long as three minutes.

"Most existing hyperthermal facilities can sustain high-temperature, high-speed tests for only about 1/100 of a second," Stevens said.

Temperatures ranging from 2,000 to 15,000 degrees can be simulated, along with Mach numbers up to 13.

Speed of the air stream is determined by a family of "supersonic nozzles," which are connected to the plasma generator.

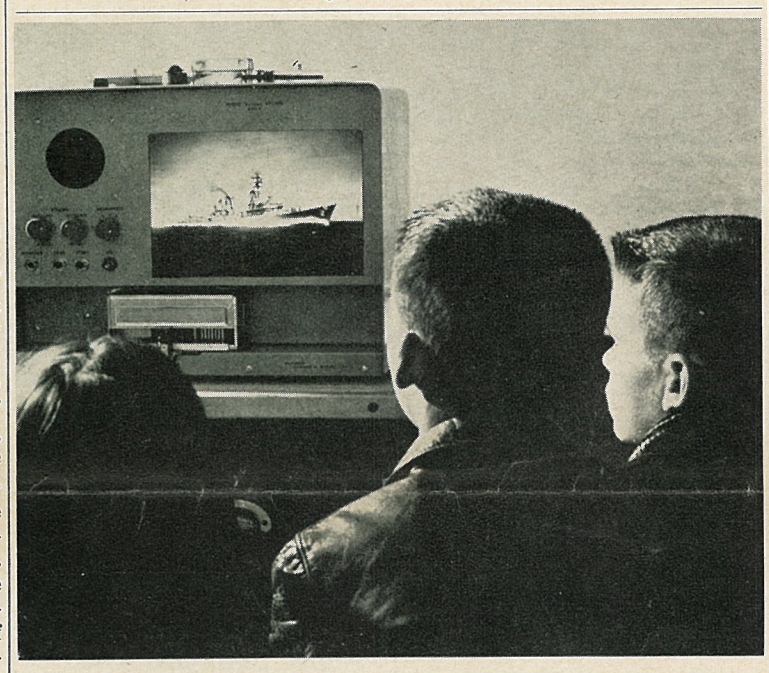
Shorter nozzles, smaller in diameter, will be used to obtain lower speeds, while larger nozzles will expand the air blast, creating an air stream of higher speed.

The test chamber has windows about 20 inches in diameter and one-inch thick.

Test results will be measured by such devices as a spectograph (to determine temperature and chemical composition of the stream); a system for observing shock waves and boundary layers; and special instruments to measure pressure in the air and heat transfer to the models.

"Much of the early research work in the facility will be of plastics and other ablation materials which don't conduct heat well and also melt or vaporize at certain temperatures," Stevens said.

Such materials, now used on many missile nose cones, literally "peel off" as the cone builds up to temperatures as high as 2,500 degrees for a short period—about 30 seconds—during re-entry into atmosphere.



WELCOME ABOARD—Youngsters watch audio-visual production packaged by GD/Pomona that explains operation of USS Charles F. Adams (DDG-2), Tartar-armed destroyer.

Illustrated, Too

Missile Destroyer Story 'Told' In Ten Different Languages

The guided missile destroyer USS Charles F. Adams, which left recently for an extended European tour, is equipped to tell her story in 10 different languages.

The unique presentation is an audio-visual package prepared by General Dynamics/Pomona at the request of the ship's skipper, Cdr. Bob Munroe Jr. Nortronics Division of Northrop Corporation, which produced the audio-visual equipment used to help check out the ship's guided missile system, also participated.

The package, delivered to Cdr. Munroe three days before the Adams departed Charleston, S. C., for Europe, included 56 slides that show what makes the ship tick. Also included were 10 accompanying tape recordings in 10 different languages.

The tapes were translated and narrated almost exclusively by GD/Pomona personnel. The only exception was the tape in Portuguese, which was translated by J. A. Pomeroy (Dept. 7) and Leonard Pronko, professor of romance languages at Claremont Men's College. Pronko also narrated this tape.

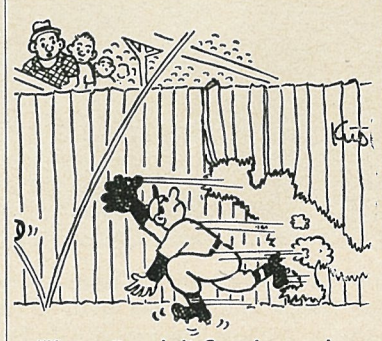
Tapes were also prepared in Swedish, Danish, Dutch, German, French, Spanish, Italian, Greek and English.

Oscar Staverfield (Dept. 6) prepared and narrated the tape in Swedish, and the Danish version was translated and narrated by W. E. Green (Dept. 7). The English version was narrated by A. E. Lambert (Dept. 3).

The other tapes, with the narrator listed first, were prepared by: Dutch, L. T. De Roos and R. M. Mees (both Dept. 6); German, Alfred Beck, Dr. H. E. Trucks and Mrs. Carolyn E. McConnehey (all Dept. 6); French, F. D. Craig and C. E. Angelici (both Dept. 6); Spanish, J. A. Pomeroy (Dept. 7) and A. J. Chippendale Jr. (Dept. 6); Italian, L. N. Di Pinto, Jules Jonas (both narrators) and Ettore Buttora (all Dept. 6); and Greek, Spyros Daoussis (Dept. 6) and J. N. Constant (Dept. 7).

When the Adams stops at various ports in Europe, many visitors will be welcomed aboard. They will first see the audio-visual presentation in their own language, and will then make a physical tour of the ship.

The Tartar surface-to-air missile was developed and is being produced at General Dynamics/Pomona.



"You gotta admit Casey's a real competitor."



ON TELEVISION—GD/Astro's C. F. McMenamy, right, advisory committee member, Community Educational Resources, discusses program's working with Tom Mullahey, KRON announcer; Dr. C. D. Hardesty, San Diego superintendent of education; and Mrs. Ruth Pierson, Imperial Beach elementary school teacher. Televised presentation will be shown on Channel 10 at 1:30 p.m., Jan. 21.

Committee Served as Liaison Between Schools and Industry

A new concept in education, in which General Dynamics employees played leading roles, will be explained in a special television broadcast "Communities Teach, Too," on San Diego Channel 10, Sunday (Jan. 21) at 1:30 p.m.

Subject of the panel discussion program, presented by the California Teachers Association as part of its "Why, Teacher?" series, is the Advisory Committee on Community Educational Resources.

On the panel is GD/Astro's C. F. McMenamy, advisory committee chairman, who with Dr. Cecil Hardesty, county superintendent of education, and Mrs. Ruth Pierson, Imperial Beach elementary teacher, explains the Community Resources program. The broadcast was filmed recently in San Francisco.

The 15-member committee was organized early in 1960, with McMenamy (now Astro Dept. 522-2, but then at GD/Convair), and a handful of other representatives from Convair, other local industries and research organizations. GD/Astro's Curtis Bates, Dept. 510, is presently a committee member.

"Our goal is to provide swift liaison between schools and authoritative information sources: industry, private laboratories, etc.," said McMenamy. "In this way students obtain accurate data on subjects currently in the news without delay inherent in preparing completely new textbooks."

Hard Ball Players Win Second Game

Convair's baseball nine stood 1-1 in second-half play after downing Lemon Grove, 13 to 5, on Robb Field at Ocean Beach Jan. 7.

The plant team had dropped its first game of the round to Rohr. It still had three games to go before the season ends. Schedule included a tilt at National City last Sunday; one with Astronautics next Sunday (Jan. 21) and the third the following week (Jan. 28) against Oceanside.

Both the Jan. 21 and 28 games will be played at Mission Bay Youth Field. Game time is 1:30 p.m. Spectators are welcome free of charge.

Convair will be in the play-off for championship title in March regardless of standing in current play, ending the first half undefeated.

ROCKHOUND SHACK REOPENS AT SD

Rockhound Shack, on Pacific Hwy. across from GD/Convair Plant 1, now is open again for regular Tuesday and Wednesday evening hours. It was closed over the holiday period, reopening Jan. 9.

Lunch Hour Putting To Resume Feb. 5

Lunch-hour golfers will be back in action when ARA's putting green east of GD/Astro cafeteria reopens Monday, Feb. 5.

The green, which has been closed for several months, has been seeded and repaired, and new balls and other equipment have been obtained.

The facility will be open from 11 a.m. to 1:10 p.m., Mondays, Wednesdays and Fridays.

Toastmasters Meet At General Atomic Site

Dynamics Toastmasters Club, open to all General Dynamics men, holds its regular dinner meeting tomorrow (Jan. 18) at the General Atomic plant, Torrey Pines.

Reservations for the 6 p.m. meeting may be made by calling Ken Samples, ext. 2223, GD/Convair, Plant 1. The meeting will be in the General Atomic dining room next to the cafeteria, and General Atomic men are especially invited to attend.

PARTY 'WONDERFUL' YOUNGSTER WRITES, THANKING CON-TRIB

"It was the best party I ever been to."

Written by a pre-teen-age youngster, this was part of a letter acknowledging the annual Astronautics Employees' Con-Trib-Club-Salvation Army Children's party held Dec. 17, at San Diego.

The letter read: "I would like to thank you for the party you held on Saturday. It was wonderful. Thank you for inviting us. It was the best party I ever been to. Thank the people who helped with this. And thank Mr. Jess too. He was so nice. Thank him for picking us up and taking us home. Thank you for the presents. They were very nice. I love them. The doll and the game called Chutes and Ladders. Thank you for the shoes and blouse and skirt. Thank the women who help, too. Thank you for everything."

An annual affair, the party was held for 150 needy children. More than 200 persons volunteered their time to help stage it.

* * *

GD/Astro contracts (Dept. 110) this year contributed food, clothing and toys to an Ensenada (Baja California) orphanage, as in Christmases past.

J. H. Edwards, contracts representative, reported that milk is at a premium, so canned and powdered milk were included in this year's contribution. From lack of housing, only girls sleep in the orphanage, he said, with boys fending for themselves at night.

* * *

For the sixth consecutive year members of GD/Astro's test equipment group in engineering contributed Christmas funds ($130 this year) to buy equipment at the Children's Hospital in San Diego. Additional funds went to Salvation Army, according to Chairman Mickey Cornwall.

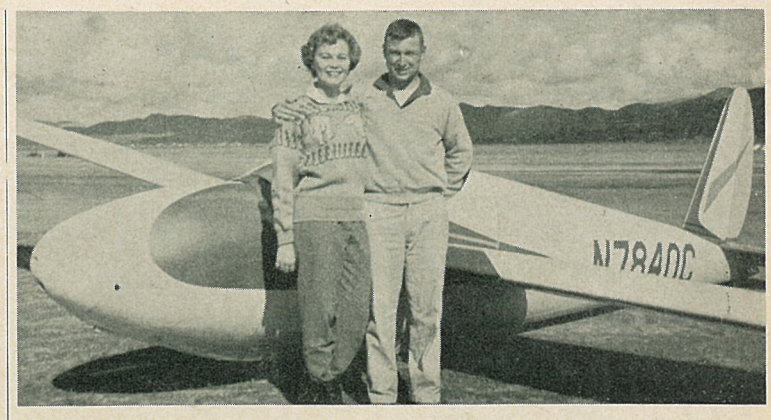
Free Family Swim Night Scheduled at Plunge For Feb. 3

Next free family swim night at the Mission Beach Plunge for GD/Convair and GD/Electronics people is set for first Saturday night of next month (Feb. 3), said Pete Beyrer of CRA.

In addition to the monthly swim, all General Dynamics people in the San Diego area are welcome to participate in the regular swimming activities offered at the plunge by the city park and recreation department.

The 60x175-ft. pool, largest indoor swimming pool in the West, is open Wednesdays, Thursdays, Fridays, from 2:30 to 10 p.m.; Saturdays and Sundays, noon until 6. Price is 60 cents for adults; 35 cents for under 16 years.

Instruction for all ages over 8 years, beginners through advanced, is offered as well as skin diving training. Bill Lucas, in charge of swimming activities for the city, may be contacted at AC-4-2439 for details.



BIRD WINNER—Mr. and Mrs. Sterling Starr and glider which helped win them turkey at annual sailplane contest.

Delegation of San Diego Sailplane Pilots Journey to Year-End Contest at Elsinore

Seven GD/Convair sailplane pilots were numbered among the 20 from San Diego area who took their gliders to Elsinore the last day of 1961 for a year-end contest.

Convair Recreation Association provided three turkeys for top scores. Winners, with least total miss distances in bomb drops from 500 feet and spot landings, were Sterling Starr of GD/Convair, Bill Petrie and George Tweed.

A warm 78-degree day with clear skies and no wind set the stage for the contest at Skylark Airport. Later in the day winds aloft on the Santa Ana mountains west of the field provided good sustaining lift. At one time 10 gliders were playing around the peaks and rocks of the mountains in flights of up to two hours in the air.

The day ended with a dinner for glider pilots and families at Live Oak Inn, south of Corona, on the way home to San Diego.

Besides Starr, others from GD/Convair taking part in the Associated Glider Clubs of Southern California contest were Gene Cain, Gene Whigham, both engineering flight test; Steve Kecskes of experimental and son, Andy; Duke Stallings, also of experimental; and Ted Sanford, engineering FAA coordinator.

Convair glider pilots will be assisting in arrangements for the annual Pacific Coast Mid-Winter Soaring Championships set for Feb. 24-25 at Torrey Pines.



OFFICE CHANGE—Lee Betts (left), outgoing president of Delta Toastmistresses, hands gavel to newly-elected prexy, Martha Woodberry of GD/Convair, in token of recent change of officers. In center is Virginia Reynolds of GD/Astro, new vice president.

Incoming Officers To Be Installed Jan. 19 To Serve Delta Toastmistresses in 1962

Martha Woodberry of General Dynamics/Convair will be installed president of Delta Toastmistresses Jan. 19 at ceremonies in the Lancer's Room, Kings Inn.

Guest speaker at the 7:30 p.m. dinner will be Mrs. Lu Cearns, Council 7 first vice chairman. Her topic will carry out the meeting theme, "The Chalice of Harmony."

Installing officer will be Mrs. Susan Hall, immediate past chairman of Council 7. Invocation will be given by Louise Klein, wife of Kurt Klein (GD/Convair, Dept. 142). Carolyn Boles will act as toastmistress for the evening's program.

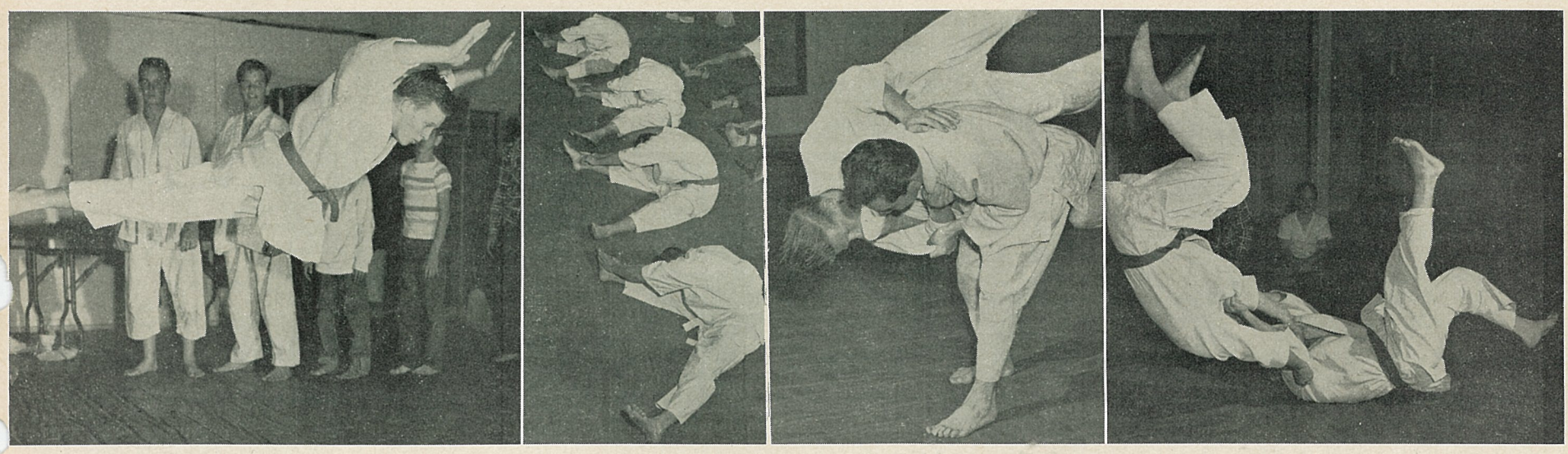
Mrs. Woodberry (Dept. 3-2) succeeds Lee Betts (wife of L. T. Betts, Dept. 4-0) who headed the Convair-Astro women's speaking group during the last term.

Other incoming officers are: vice president, Virginia Reynolds, Astro Dept. 144; secretary, Cleo Fletcher; treasurer, Marilyn Heimberg; club representative, Catherine Whelan.

Regular meetings are held the second and fourth Tuesday of each month in the Convair executive dining room, Pacific Hwy. Next meeting will be Feb. 13.



HOLIDAY TIME—Happy gatherings of GD/Electronics groups marked end-of-year celebrations with dance for all-San Diego area people Dec. 15 at Wagon Wheel, Santee (center shots). Top shot shows William Lawrence, GD/Electronics general manager; H. L. Gates, manager of operations; H. J. Stuart, manager of product tests, and guests. Left and right shots show Dec. 22 dance of Information Technology group at Hotel del Coronado. Dance committee (left) are Sue Chappel, Roy Mattis, Carmen Randall, Don Hall, Dick Loew, Bill Redwood. At right, L. H. Orpin, Info Tech manager, congratulates Peggy Crosby on winning door prize.



SELF DEFENSE: AN ART—Over 75 employees and their children have undergone rigorous training in past two years at CRA, San Diego, learning judo. Taught by Tony Silva, classes generally average 25 persons. Silva, who holds brown belt (fifth in six-stage hierarchy of judo prowess), said one year's training in fundamentals should give person solid framework. One student (left) falls "flat-out" as part of stomach-toughening drill while Silva (left-center) leads group in warm-up exercises. Two traditional throws are shown in shoulder-throw (right-center) and classic stomach "up and over" toss (right).

GD/Convair Son Wins Honors During Model Airplane Meet

A GD/Convair son took honors and a turkey at CRA Aeromodelers holiday shoot Dec. 23 at Hourglass Field.

Don Hamilton, son of J. G. Hamilton, kept his A-1 towliner in the air 13 minutes to win the turkey given for most time in the air in all events, towline free flight, hand-launch glider, rubber-powered models.

Close behind in total airborne times were models owned by Larry Peterson, Don Larsen, Walt Mooney of GD/Convair, and Jack Finn of GD/Electronics.

Nat Antoniolli was in the running with his A class free flight model, named Vortex, until it swirled into the asphalt after a spiralling powered climb and dive. Timing all events was Jerry Oliver of GD/Electronics.

Flying weather was excellent on meet day, said Don Larsen, club president.

Plans are under way for Aeromodelers' annual free flight scale contest over the weekend of Feb. 10-11. All modelers at GD/Convair and GD/Electronics are reminded that Saturday model flying is held each week at the Clairemont Mesa flying site from 7:30 a.m. to early afternoon.

Archers to Collect Awards For Year

Top bowmen of CRA Archery Club will receive yearly awards at tomorrow's (Jan. 18) meeting, 7:30 p.m., in CRA Clubhouse, Pacific Highway.

Coming events also will be under discussion, said Al Phipps, CRA commissioner. The Convair group now is making plans for an open shoot March 11 at Balboa Park Field Range.

Members will be among the 3,000 organized archers in the state who will attend the annual California archery convention Feb. 3-4. Sessions and installation of state officers will be held in El Cortez Hotel, San Diego.

Good Snow Enjoyed By Big Bear Skiers

Thirty-six CRA skiers enjoyed good skiing over New Year's weekend at Big Bear, reported Commissioner Joe Harris.

About 25 took advantage of instruction during the holiday outing and many club members took their youngsters along to start them in the popular sport.

More skiing trips will be scheduled for the group as soon as there's word of adequate snow, said Harris.

Dynamics Fencers To Appear on TV

Members of the joint ARA-CRA Fencing Club will be featured on San Diego television Channel 10 when the Lute Mason "Sports Unlimited" show examines the sport at 7 p.m., Jan. 18.

Seen in "combat" will be Mike Hurley, ARA commissioner, Ray McNamara, club president, Barbara Proppe, Audrey Knauer, and father and son, Dick and Don Jones.

The show includes actual fencing bouts, and demonstrations of the sport's finer points. Scenes were filmed at a recent club meeting.

Golf Club Holds Last Tourney

Twenty-six turkeys were awarded winners of Convair Golf Club's concluding "Best-of-Nine" tournament held last month at Torrey Pines. More than 100 golfers from GD/Astro and GD/Convair took part.

Leading winner was E. Muklevicz with 62. He was trailed by Larry Broussard (63), M. Barksdale (64), Claude Lepper (65), Sam Ciolak (66), and Fred Wells and Frank Rodgers (67).

Other turkey winners were Carl Carver (68); Kay Stiles and Dick Ransdell (69); Jim Jones, Walt Rye, Lou Canter and Harry Coyle (70); John Sentovic, Lou deBelloy, Ken Eastin and Tob Hunley (71).

C. B. Bagaloff and Dick Torrance shot 72s, while Jack Weaver, Harry Richards, Ed Bourgeois, Hank Billings, Chuck Walton and Clark Saunders turned in 73s to round out the winners' list.

Convair and Astro Netters Split Even

Netmen from Convair and Astro split even-steven in first of a series of inter-division tennis tourneys matching teams from each company.

Four teams in each bracket were entered from each division in the Dec. 23 men's doubles tournament on Balboa Park's Morley Field courts.

Convair team of Stan Griffin and Dennis Sealey swept the A class defeating Chet Dutton and Barry Gibson in the finals 6-3, 6-3.

Topping the B class were Astro players, Rob Sanchez and Don McClarren who defeated Carl Schuler and Ed Bennett by 6-4, 6-4.

Rivalry between the two divisions will continue with an Astro vs. Convair novice tournament next month.

GD/E's Norm Neault Will Head Coin Club

Norm Neault of General Dynamics/Electronics will head the CRA Coin Club for the next year as president.

Other officers chosen at the Dec. 21 election are: Laudie Rieder (Dept. 6), vice president; A. L. Baber (Dept. 13), secretary; E. L. Lampe (Dept. 180), treasurer.

They will be installed at the Jan. 18 meeting, 7:30 p.m., Convair executive dining room.

Mrs. George Johnson of GD/Convair receiving inspection was lucky winner of a ham.

Sports & Recreation



GREEN THUMBS—Admiring outstanding rose exhibits at annual CRA Garden Club flower show are (from left) Mrs. Arnold Carroll, Mrs. E. L. Zimmerman, CRA Commissioner Zimmerman, Everett Henderson, Astro commissioner, Carroll. Children are small Cynthia Sinnott (father in GD/Electronics) and Janice Zimmerman.

Firemen Steamed Up As Rivalry Waxes Warm in Bowling League

Firemen at GD/Convair are all steamed up about their first organized sport—a kegling league made up entirely of blaze chasers.

And rivalry mounts high as scores go up on the board in the station house.

The over 60 men belonging to the plant fire department have had to forego group recreation and sports because of their constantly changing working hours. This year, Hugh Rae, company fire marshal, stepped in as go-between in setting up a department bowling league, working out schedules, and keeping it going.

In spite of shifting back and forth from days to nights and different alleys, five teams have finished first-half play of 48 games without too many lapses in schedule.

John O'Toole captains the Fireballs; Ron Guthrie, Smoke Eaters; Bill Schmus, False Alarms; Ron Serfass, Redliners; Ben Diffenbaugh, Fire House Five Plus One.

As first round drew to a close, Smoke Eaters and Redliners went into play-offs tied at 25 won, 23 lost. Fireballs came from behind to snatch the title by one game when they defeated False Alarms.

High individual game was held by Serfass, 253; high individual series, Rae, 560; and Redliners had both high team game, 932, and high team series, 2333.

Lectures, Field Trips Scheduled Tuesdays

General Dynamics employees in San Diego interested in hiking and wilderness preservation have been invited to a series of lectures and field trips sponsored by the Sierra Club and San Diego Park and Recreation Dept.

Held each Tuesday (7:30 to 9:30 p.m.) at Jefferson Elementary school (Utah St., south of University), the course is called "Basic Mountaineering." A. Van Norman of Dept. 597 at Astro is chairman.



ROLLING FIREMEN — Representing five-team GD/Convair fire department bowling league in first season of play are (from left), kneeling, Ron Serfass (Redliners), Hugh Rae (Smoke Eaters), Bob Finch (Fireballs); standing, Norman Ploium (False Alarms), John Doughty (Fire House Five Plus One).

CRA Calendar

(Convair Recreation Association has some 40 activities in operation. For information on Convair sports, call CRA headquarters, ext. 1245, Plant 1.)

★ ★ ★

ARCHERY—Monthly meeting Jan. 18, CRA Clubhouse, Pacific Hwy., 7:30 p.m.

BASEBALL — Convair vs. Astro Jan. 21, 1:30 p.m., Mission Bay Youth Field. No admission charge.

BRIDGE — Weekly sessions each Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB—Meeting Jan. 22, 7:30 p.m., Photo Arts Bldg., Balboa Park.

COIN CLUB — Installation of officers Jan. 18, 7:30 p.m., Convair executive dining room.

FENCING—Workouts and instruction each Friday night, 7-10 p.m., YWCA, Tenth and C Sts.

ICE SKATING — Skating sessions each Thursday, Iceland, 6055 Lake Murray Blvd., 6:30-8 p.m.

JUDO—Instruction each Thursday, 7 p.m., CRA Clubhouse, Pacific Hwy.

MOVIES—Reduced price movies each Friday, Saturday, Sunday at Adams Theater, 3325 Adams Ave. Admission: adults, 50¢; children under 12 free if accompanied by adult.

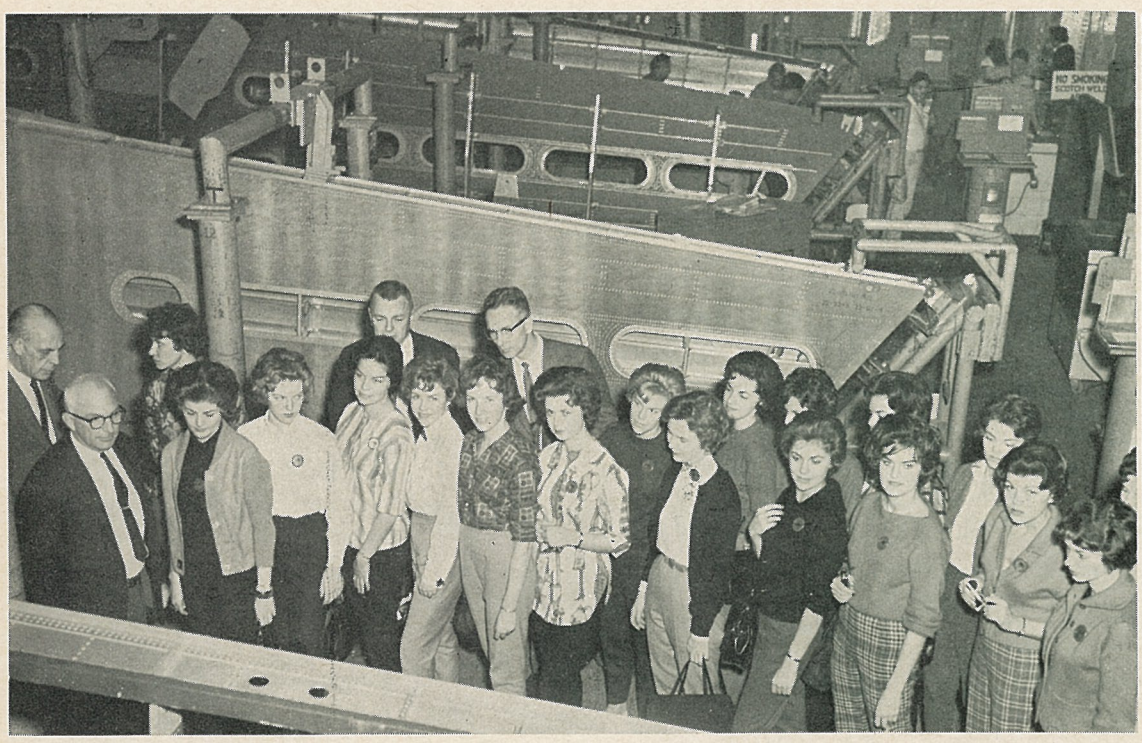
PISTOL CLUB — Next shoot Jan. 28, 9 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (Jan. 18) 8 p.m., Harbor Drive headquarters.

Lesson in Pruning Offered Gardeners

Convair Garden Club members saw a pruning demonstration at their Jan. 10 meeting in Floral Association Bldg., Balboa Park.

They were also given the opportunity to order rose bushes at discount prices for spring planting.



WOMAN'S ANGLE—Twenty attractive American Airlines stewardesses from Chicago and New York are snapped in wing primary at GD/Convair plant during recent briefing on Convair 990 jetliners, now going to airline. W. W. Lynt of GD/Convair (second from left) conducted tour. American officials are, at far left, T. W. Brooks, director of stewardess services; R. B. Tingdale, manager of stewardess training and processes; K. S. Van Dyke, manager of terminal services.

Materials and Designs Tried Out in Tests For Portable Landing Field

Landing mat panels, of a new-type construction developed at General Dynamics/Convair, were withstanding impact forces comparable to high-speed jet landings recently in a series of tests at San Diego.

A variety of materials and combinations have been under consideration by GD/Convair engineering during studies conducted for the Navy under a contract awarded last July. Work called for design, fabrication, and testing of SATS (small airfield tactical support) matting for portable landing fields to be used by Marine fighters making aircraft carrier-type approaches.

Specimens now leading the list for possible use as matting material are of sandwich construction. Cores are solid spruce wood faced with aluminum.

G. L. Pankey, project leader, said that other light-weight materials considered for portable panels included steel, fiber glass, magnesium, to name a few, as well as combinations of different metals and woods.

"Prime candidate for matting material—the wood and aluminum sandwich—seems to meet all requirements," he said. "The wood core can absorb high impact energy and can be built at a lower cost than the all-metal types."

However, an all-aluminum brazed honeycomb panel will undergo rigorous tests as the testing program continues.

A series of at least 50 tests has been run during the last couple of months by the materials and processes laboratory at the San Diego plant.

Impact tests, proving that the material could withstand a 135,000-lb. landing force, wound up the current series.

Steel weights, from 44 to 110 lbs., were dropped from a height of 35 feet onto specimens (covered with rubber pads acting the part of wheel tires) to simulate extreme force of actual jet plane landings. Drops were made from the top of the evaporating tower behind Bldg. 5, Plant 1.

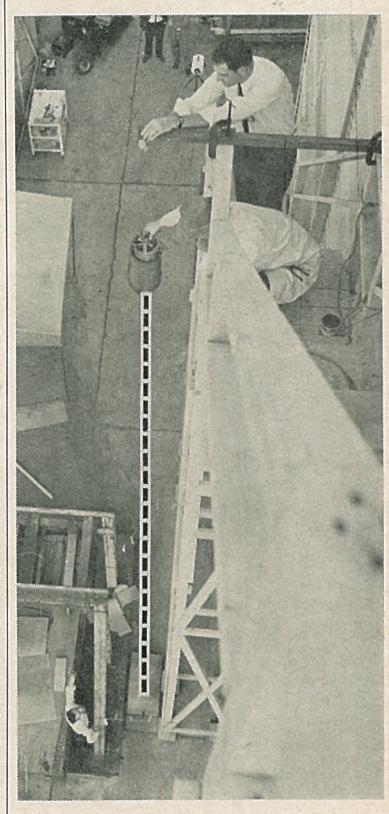
Other tests included fatigue, beam bending, shear, rolling wheel load, edge connectors, temperature extremes.

Preliminary hook impact tests also have been run successfully by the Navy at the Naval Air Engineering Laboratory, Philadelphia, Pa., on panel assemblies furnished by GD/Convair.

All specimens, and two full-size panels 52 inches square, were built in GD/Convair's experimental model shop. In addition, a tool has been designed for handling and adjusting the panels as they are laid to form a landing strip. It would take 20,000 panels to make a complete SATS field with landing strip 72 by 2,000 feet.

Panels designed at GD/Convair have connectors on all four sides with bars fitting into the slots to firmly join individual panels. Advantage of such a system, explained Pankey, is that individual panels can be removed and replaced easily without disturbing the rest of the landing strip.

A full report on initial studies on the SATS MATS project, as it is known, will be submitted to the Navy for consideration before the end of this month.



HIGH DROP—Harry Ruscigno, GD/Convair engineer, (on steps of high evaporating tower) adjusts wire holding steel weight, steadied by Bill Parker of materials and processes lab, before drop on SATS MATS test specimen. Forces duplicated those produced in high-speed jet landings.

Scholarship Applications Distributed

Application forms for the 1962 General Dynamics/Convair Management Club scholarship contest went early this month to all San Diego area high schools.

Forms, accompanied by transcript of grades, brief description of school achievements, and plans for continued study, must be submitted by Feb. 16, stressed Keith Blair, chairman.

Sons and daughters of San Diego area employees of GD/Convair, GD/Electronics, and Corporate Office are eligible to compete. Students must be graduating from high school this year, either in January or June.

This is the 15th consecutive year scholarship awards have been given by GD/Convair Management Club to sons and daughters of employees. As in the past, one $1,000 scholarship each will go to the top boy and girl. Four runners-up will receive U. S. Savings Bonds of $100 each.

Funds for the annual scholarship grants come from proceeds of raffles held at each of the Management Club's monthly meetings. To date, more than $22,000 has been awarded by the club to outstanding students.

Posters calling attention to the current contest went up throughout plant areas this month and further information on eligibility rules and application forms may be obtained by calling Blair, ext. 1543, Plant 1. All applications are to be submitted through contestants' high schools.

Announcement of winners will be made in April following evaluation, testing, and judging procedures.

Scholarship committee members are, besides Blair: liaison, Ray Lange, Dept. 46, ext. 2111, Rose Canyon; communications, Morrie Tombler, Dept. 6, ext. 1831; secretary, Barbara Vincent, Dept. 91, ext. 2215; arrangements, Ted Houk, Dept. 34, ext. 2605, Rose Canyon; testing, Jim Woodhouse, Dept. 32, ext. 1314; judging, Gene Amory, Dept. 34, ext. 1577; awards, Pat Fitzgerald, Dept. 16, ext. 2796; coordinator, Clair Taylor, Dept. 400, ext. 492, Plant 2; public relations, Joe Sloan, Dept. 8, ext. 1467, and Bob Evers, Dept. 1-41, ext. 1864.

Weekend Schedule For Salvage Set

Salvage yards at GD/Convair and GD/Astro plants will be open for employee sales on the following schedule:

GD/Astro—Saturdays, Jan. 27, Feb. 10.

GD/Convair — Saturdays, Jan. 20, Feb. 3.



VIEW 990—Frank Pace Jr. (center), GD chairman of board, is greeted at GD/Convair by R. A. Neale and J. H. Famme.

Gene Whigham Named CRA Commissioner

Gene Whigham has been named commissioner of three Convair Recreation Association activities — Aeromodelers, Solo Flyers, and Glider Club.



Gene Whigham

Whigham succeeds Ted W. Sanford who has headed the groups since last June, announced J. K. Field, chief of employee services. Sanford has left the company for an FAA appointment in Washington, D. C.

A former Air Force pilot, Whigham has been with GD/Convair for ten years in engineering flight test planning and operations.

'Expanding Horizons' Subject For Talk

"Expanding Managers' Horizons," will be the topic of Leonard Freedman, National Management Association speaker, at tonight's (Jan. 17) meeting of the General Dynamics/Convair Management Club.

Freedman is in charge of UCLA extension programs in liberal arts and sciences and is co-author of a forthcoming book, "Issues of the Sixties."

Meeting will be held at Mission Valley's Stardust Hotel with social hour at 5:30 p.m. and dinner at 6:30. Operations planning departments (Depts. 12, 23, 24, 25) are sponsoring.

Orchestra Concert Scheduled on Jan. 26

At least 20 young musicians, sons and daughters of General Dynamics people, will be heard in the coming performance of the Civic Youth Orchestra.

Concert date is Jan. 26, 8:30 p.m., in San Diego's Russ Auditorium. The program of 19th century music will be directed by Lawrence K. Christianson. The public is welcomed without charge.

Data Processing Classes Offered

Data processing classes are open to interested General Dynamics people in both day and evening programs of San Diego City College's spring semester.

Evening courses include introduction to data processing, punch card machine and computer programming. The introductory course will be offered during the day.

Spring semester registration for new students begins today (Jan. 17) and continues through Jan. 29. Classes begin Jan. 30.

Information on City College courses is available at educational services offices at GD/Convair and GD/Astro or at the college, 1425 Russ Blvd., San Diego.

REDUCTION IN FISH TRIP COST OFFERED

Exchange tickets worth $1 reduction in price of deep-sea fishing trips are on hand at GD/Convair employee services. They are offered General Dynamics fishermen by Seaforth Landing, 1641 Quivera Road, Mission Bay, on half-day trips, regularly priced at $5.50.

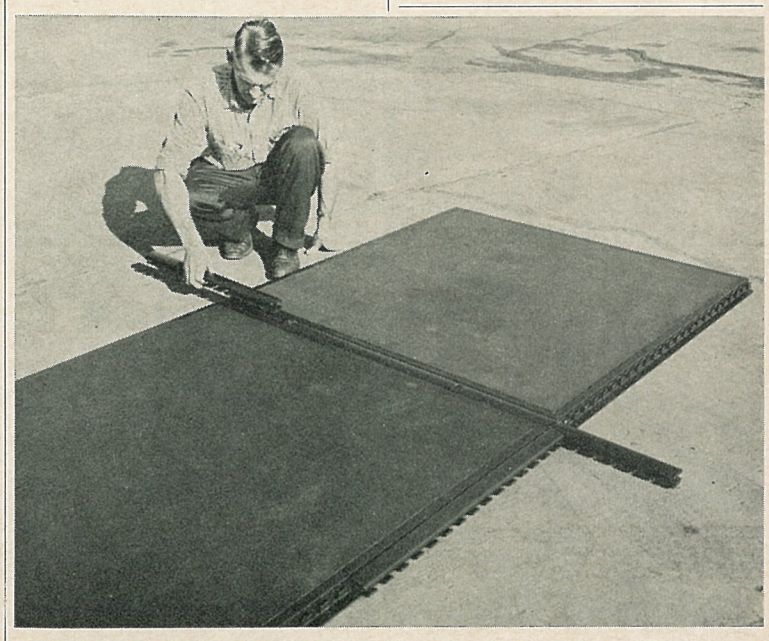
Consolidated 'Vets' Reunite 26th Time

Consolidated Aircraft oldtimers renewed pledges of friendship for another year as they gathered for their annual New Year's Eve party.

For the 26th time the group, now numbering some seven couples, welcomed in the young year together. They were the balance of 24 Consolidated employees who began the tradition in 1935 when the company moved from Buffalo, N. Y., to San Diego.

Missed this year were the Ben Kiegles. His death occured a few weeks before. And the Arnie Springers missed their first get-together when they were stalled with car trouble, but had the fun of joining in "Auld Lang Syne" over the phone as the clock struck 12.

Hosts for this year's reunion were Mr. and Mrs. William Milton of Pacific Beach.



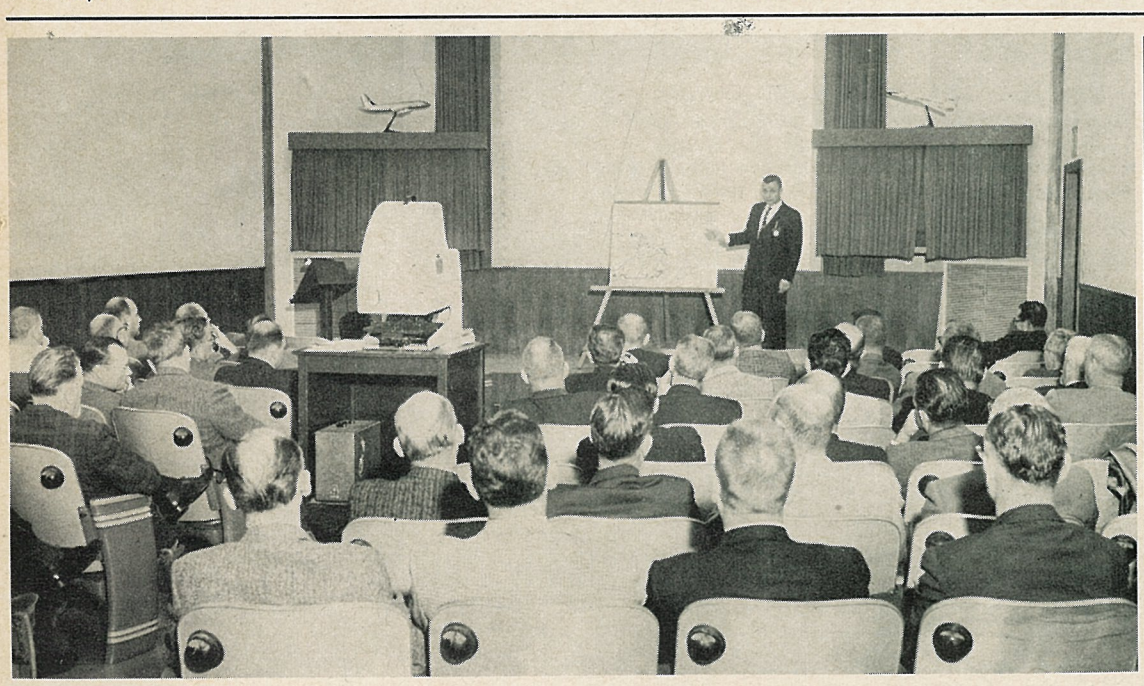
SMOOTH JOINING—V. P. Livermore of GD/Convair experimental inserts connecting bars to join panels under development at GD/Convair for portable landing strips. In actual placement, panels would be staggered.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 3 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, January 31, 1962



BATTLE CALL—C. E. Hobson, senior manufacturing engineer, sounds clarion to action as he kicks off GD/Convair "Project Advance" before company supervision.

'Project Advance' Aims At Cutting Duplication

"Project Advance," a campaign geared to strengthen General Dynamics/Convair's competitive position in the industrial field, went into action last week at the San Diego plant.

All plant supervision was drawn into the drive to eliminate duplication of effort, combine functions and slash costs. The kickoff presentation was held last Wednesday.

"Team action will be the only way we can attack problem areas, ferret out unnecessary duplication, and put GD/Convair out in front as we forge ahead into new types of business," M. R. Hatcher, manager of operations planning, stressed.

Directed by industrial engineering, under responsibility of W. E. Wise, newly-appointed chief, the program will see realignment of effort within the plant wherever necessary to reduce overhead.

Teams will be formed within all departments to study every facet of GD/Convair operations.

Such areas as machine shops, welding, laboratories, paint shops, wood mills, etc., will be studied to combine such work in one central location wherever possible.

Following thorough examination of every plant facility, under the close eye of industrial manufacturing experts, a report will go to management recommending definite solutions, said R. D. Marks, industrial engineering general supervisor.

C. E. Hobson, senior manufacturing engineer, has been named coordinator for the drive.

First C-141 Deliveries Slated in Spring of '63

General policy agreement and announcement of supplementary work under the C-141 subcontract for Lockheed - Georgia Co. resulted from a conference of General Dynamics/Convair and Lockheed administrators at San Diego this month.

J. H. Famme, GD/Convair president, said that a meeting of the minds was reached during discussions centered around configuration specifications which will govern direction of the C-141 subcontract project.

General Dynamics/Convair is designing and building tail sections for the Air Force C-141 cargo jet transport for Lockheed-Georgia Co., prime contractor.

An additional third of a million dollars worth of business has been added to the original contract with go-ahead on design and qualification checkout of the electrically de-iced leading edges for C-141 horizontal stabilizers.

Lockheed officials, H. Lee Poore, C-141 manufacturing manager; N. F. Hill, material administrator for C-141 subcontracts; W. W. Beal, C-141 purchasing representative now in residence at the San Diego plant, met Jan. 19 with Famme, R. A. Neale, GD/Convair vice president and general manager; J. M. Adamson, C-141 project manager; and D. R. Stewart, C-141 contract administrator.

A follow-on conference for firming details is slated today (Jan. 31) at Marietta, Ga.

Adamson, Stewart, and R. W. Miller, project engineer, head the GD/Convair delegation. J. S. Bergstrom, GD/Convair assistant chief engineer, who has followed closely all facets of C-141 subcontract negotiations since their inception, planned to be at the Georgia meeting if possible.

A team of GD/Convair engineers planned to be at Marietta early this week to spend a couple of days in dynamics discussions with Lockheed engineers in advance of the conference. They are Miller, R. J. Schulte, R. L. Fefferman, R. C. Westbrook, J. R. Stitt, L. J. Koenig, E. E. Benson, E. H. Love.

In-plant progress at GD/Convair on the C-141 subcontract during the last few weeks has seen schedule dates proposed to guarantee delivery of first production article by April, 1963.

This has been accomplished with integration of all design, tooling, and manufacturing scheduling for the months ahead, explained Miller. A formal presentation on costs and schedules will be made to Lockheed within the next couple of weeks.

Design of detail hardware was

(Continued on Page 2)

February Salvage Yard Hours Set

Saturday sales for General Dynamics employees at salvage yards at GD/Convair and GD/Astro for the next four-week period:

GD/Convair—Feb. 3 and Feb. 17.

GD/Astro—Feb. 10 and Feb. 24.

GD/Electronics Leads Safety, Housekeeping

General Dynamics/Electronics manufacturing led the field in safety and good housekeeping during the year.

Although GD/Electronics operations are judged separately from departments competing in GD/Convair's annual safety and good housekeeping contest, it led all functions located at the San Diego facility. Its score for the 12-month period was 15 wins out of a possible 24 with six for good housekeeping and nine for safety. With 575 employees in production functions, housekeeping violations per employee throughout the year stood at .013.

This was the first year that GD/Electronics had figured in the contest.

Winning area for GD/Convair was production services, including Depts. 21, 25, 192, 292. They totaled a score of 14—10 for good housekeeping and four for safety. Averaging 900 employees, violation percentage was .004.

Next on the list was experimental factory, joined by jet transport delivery during latter part of the year. Score was 8 wins for the year. In third place was jet transport mockup, electric bench, wing and fuselage primary (Depts. 116, 117, 138, 139, 146, 180). Material departments came in fourth.

GD/Convair Gets Parts Contracts

Contracts totaling $350,000 for machining of parts were awarded General Dynamics / Convair by Boeing Co. of Seattle this month.

Four separate contracts call for machining 5,000 detailed parts for Boeing's commercial jet transport program.

Deliveries to the Seattle plant will begin by the end of this month and continue until the first part of September.

Two of the contracts call for machining on conventional equipment, and the other two, for numerical - controlled machining. Programming for numerical-controlled machining began in mid-January.

Six programmers from General Dynamics/Fort Worth are at the San Diego plant assisting the GD/Convair programming group in meeting programming schedules. They are Doyle Stanford, W. W. Fenley, Barney Mays, A. D. Farrell, Lester Wilson, and Roy Sprinkle.

Roger Lewis Of Pan Am to Join Dynamics

Frank Pace Jr., Chairman of General Dynamics Corporation, last week announced that Roger Lewis has agreed to become president and chief executive officer of General Dynamics in April. Earl D. Johnson, currently president of General Dynamics, would become Chairman of the Board at that time.

Lewis was elected a director and a member of the executive committee of the Board of Directors effective upon termination of his employment with Pan American World Airways System.

Lewis has been an executive vice president of Pan American and a director and a member of the executive committee of that company.

"Several months ago," Pace said, "I advised the Board of Directors that if the jet transport problem of General Dynamics could be brought under control by April of 1962—as it has—I would prefer not to stand for re-election at the next annual meeting.

"In Roger Lewis we have found a man uniquely qualified to head General Dynamics both through his long and successful experience as a business man and his broad knowledge of the aerospace industry. We are very fortunate in having obtained his services.

"My remaining three months as chief executive officer," Pace added, "will provide an opportunity for our mutual assessment of problems and an orderly transfer of authority."

Lewis has been an officer of Pan American World Airways System for more than six years. Before joining Pan American in 1955 he had served from March, 1953, as Assistant Secretary of the Air Force.

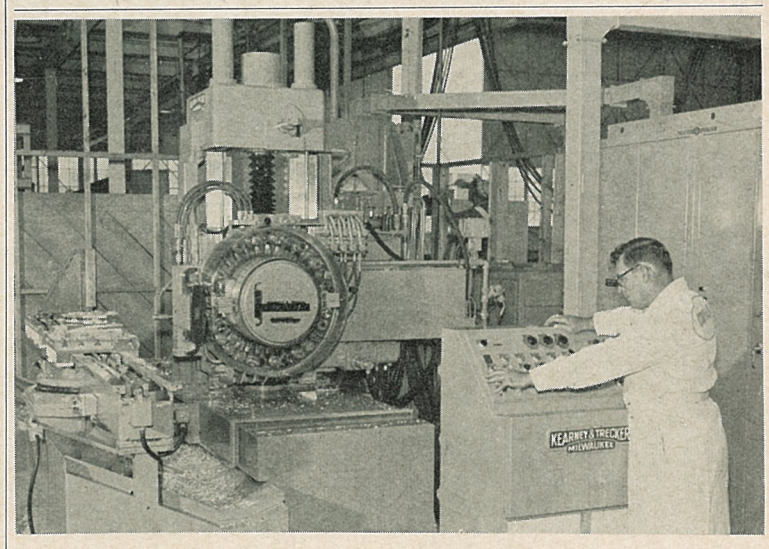
Lewis' entire business career has been in the aerospace industry. After graduation from Stanford University in 1934, he started in the metal shop of Lockheed Aircraft, working up through production control and purchasing. During World War II, he was director of material. In 1945 he became assistant general sales manager of Lockheed, and in 1947, a vice president of Canadair Limited, now a subsidiary of General Dynamics. In 1950, he joined Curtiss-Wright Corporation, where he was a vice president.

Lewis was born in Los Angeles in 1912. He is a trustee of Aerospace Corporation, a member of the Institute of Aerospace Sciences, the Council on Foreign Relations and of the Links Club and the University Club of New York City.

In a supplementary statement, Henry Crown, chairman of the executive committee of General Dynamics, said:

"Frank Pace has always had, and has now, the complete respect and confidence of the ex-

(Continued on Page 2)



IN PRODUCTION—GD/Convair's new Milwaukee Matic automatic milling machine begins first production work on Convair 990 parts. At control console is Don Yaeger, set-up man.

Automatic Machine Capability Given a Boost at GD/Convair

First production parts are set up and ready to go on General Dynamics/Convair's new numerical-controlled milling machine at Plant 1.

The Milwaukee Matic machine, installed recently to augment GD/Convair's automatic machining capabilities, will be turning out hundreds of small parts for the 990 commercial jet transport program within the next few months, said H. G. Cooper, tool engineer coordinating division numerical-control activities.

Details for the thrust reverser carriage body assembly and two additional interlocking parts, brackets for the carriage rollers, are first production parts programmed for the machine. Six hundred of the main pieces and 1,200 of the smaller details will be milled.

All are small parts requiring many different operations. Seventeen cutting tools are required to form the main body supports alone. (The Milwaukee Matic stores 31 cutting tools of various types for different functions in its tool magazine; automatically selects the right tool for the job and transfers it to the work spindle from taped instructions.)

The fixture for the 2"x1½" brackets will hold 24 parts at one time, six on each side. The machine automatically rotates

(Continued on Page 2)

Log Book Entries

Service Emblems

SAN DIEGO

Service emblems due during the period Jan. 16 through Jan. 31.

Twenty-five-year: Dept. 48-60, H. L. Laird; Dept. 91-7, A. A. Vernon; Dept. 171, Richard Small.

Twenty-year: Dept. 3-5, F. M. Amaral; Dept. 6-300, S. W. Mopps, M. R. Yale; Dept. 12-0, W. B. McQuien; Dept. 15-4, E. J. Griffin; Dept. 21-1, S. G. Whitten; Dept. 25, M. A. McLean, H. C. Wilson; Dept. 31, W. E. Heathman, Donald McDonald; Dept. 95-3, S. G. Adams; Dept. 97-6, O. T. Brown; Dept. 133, Ignacio Bracamontes; Dept. 135, J. P. Gomez; Dept. 136, B. F. Ribero; Dept. 137, C. D. Nelson; Dept. 138, M. F. Valin; Dept. 148, W. K. Felton, J. F. Montejano; Dept. 171, R. O. Wenner.

Fifteen-year: Dept. 1-14, W. M. Howard (due 1-10-62); Dept. 1-31, R. H. Biron; Dept. 16-9, Mattie C. Ross; Dept. 21-1, F. M. Hednerson; Dept. 31, W. A. Brodfuehrer, M. C. Luban; Dept. 48, L. L. Bryant, J. F. Cala, C. V. Rader; Dept. 95-3, A. F. Jones; Dept. 117, H. R. Dewhurst; Dept. 133, R. C. Scott; Dept. 135, H. C. Pannell; Dept. 139, Mervin Pierce; Dept. 141-1, L. D. Hesterberg; Dept. 160, J. A. Contasti; Dept. 206, G. L. Stryker; Dept. 400-4, W. H. Jones; Dept. 401, W. W. Dancy, L. K. Fuller.

Ten-year: Dept. 1-18-1, L. L. Doling; Dept. 1-34, Lois N. Quam (due 1-15-62); Dept. 1-51, Rosemary B. Smith; Dept. 1-61, Dorothy Larson (due 1-8-62); Dept. 2-2 Hellen E. Osborn; Dept. 3, R. O. Botkins, W. S. Potts, C. A. Zamora; Dept. 6, G. E. Donaldson, J. R. Hotz, E. H. Love Jr., Thomas McComb, J. R. Weighill, G. W. Whaley.

Dept. 13-0, P. A. Hamm; Dept. 14, Manuel Gonzales, Joe Martin, Bonnie S. Tarvin; Dept. 15-6, Frieda W. Nipper; Dept. 16-7, Ruth W. Johnson, Elizabeth B. Oppermann; Dept. 21, L. R. Barnett, R. P. Gallagher, E. S. Symons, Fernando Tellez.

Dept. 44-4, Marilyn M. Bliss; Dept. 45-0, E. J. Benchley; Dept. 46-0, Edythe S. Jennings; Dept. 48, John Cannizzaro, J. W. Coody, Marie V. Hernandez, Rudolph Iglesias, E. C. Martin, J. N. L. Megargee Jr., Helen R. Miller, A. W. Smith, W. E. Sonnenberg; Dept. 50-60, R. J. Bjorstrom, W. F. Lutes Jr.; Dept. 90, W. W. Hass; Dept. 91-7, Ethel M. Weathers.

Dept. 115, Rosemarie D. Palmgren; Dept. 116, Charliene U. McGovern; Dept. 120, Helen L. Herman; Dept. 129, S. J. Szafraniec; Dept. 138, E. D. Brannon, F. A. Williams; Dept. 140, J. M. Nimesgern, J. F. Pehota; Dept. 142, Tina L. Easley, Edith M. Knapp, Milton B. Murrah, J. W. Robson Jr.; Dept. 143, Ruth S. Phillips, Hortensia F. Smith.

Dept. 144, Albert Alimonti; Dept. 145, R. F. Badilla, Jessie Bowman, E. C. Northcutt; Dept. 146, Edna F. Hoffman, T. I. St. Pierre; Dept. 148, S. F. Cronnoble, Brazil Gilliam, G. G. Goodman, James Kida, J. E. Nimesgern, H. P. Poulsen; Dept. 160, H. F. Dale, Dominick Sebastian, J. D. Turcotte.

Dept. 171, Davidson Carel, C. E. Edbolm, C. S. Fredrickson, P. A. Whitten, T. M. Windle; Dept. 192, Mary A. Bailey, Martha O. Burns, F. F. Flores, J. A. Hamm, Gilbert Olivas, A. D. Strakon; Dept. 201, Margaret L. Heinichen; Dept. 206, Millicent S. Troyer; Dept. 215, Harriet W. Stinnett; Dept. 218, B. N. Loomis; Dept. 400, W. R. Blodgett, A. P. Castillo, Lillian B. Henry; Dept. 401, M. W. Bowen, Leona M. Leipert, Mona B. Santiago, R. E. Strohm.

GD/ELECTRONICS

Twenty-year: Dept. 5, A. R. Zagon.
Fifteen-year: Dept. 2, R. G. Bond.

Retirements

CONVAIR

BINGHAM—Thomas F., Dept. 401-7. Seniority date Oct. 2, 1951, retirement effective Jan. 5, 1962.

BRANDT—Arthur E., Dept. 14. Seniority date Nov. 18, 1946, retirement effective Jan. 5, 1962.

BUCHHOLZ—Theresa M., Dept. 216. Seniority date April 6, 1951, retirement effective Jan. 12, 1962.

COPE—Sarah C., Dept. 401-7. Seniority date Nov. 20, 1950, retirement effective Jan. 5, 1962.

CORGIAT—Peter, Dept. 25-9. Seniority date Oct. 11, 1951, retirement effective Jan. 12, 1962.

CUNNINGHAM—Edgar C., Dept. 401-1. Seniority date April 2, 1951, retirement effective Jan. 5, 1962.

FISCHER—Laurence S., Dept. 249. Seniority date May 22, 1947, retirement effective Jan. 19, 1962.

GUSKE—Henry A., Dept. 31. Seniority date June 23, 1947, retirement effective Dec. 22, 1961.

HASH—Cecil H., Dept. 201. Seniority date Oct. 26, 1951, retirement effective Dec. 10, 1961.

HECKMAN—Emil, Dept. 101. Seniority date Jan. 12, 1932, retirement effective Jan. 19, 1962.

ISENHOWER—William D., Dept. 137. Seniority date June 13, 1952, retirement effective Jan. 19, 1962.

JOURDAN—Harry, Dept. 401. Seniority date Nov. 17, 1941, retirement effective Jan. 5, 1962.

McCARTNEY—James W., Dept. 120. Seniority date July 7, 1958, retirement effective Jan. 12, 1962.

MEDLING—Virgil L., Dept. 400-2. Seniority date Dec. 2, 1941, retirement effective Jan. 5, 1962.

PARKER—George F., Dept. 171. Seniority date Sept. 19, 1950, retirement effective Jan. 5, 1962.

PEGUES—Eileen B., Dept. 140. Seniority date Dec. 26, 1951, retirement effective Jan. 10, 1962.

PIERCE—John R., Dept. 180. Seniority date Sept. 16, 1946, retirement effective Jan. 5, 1962.

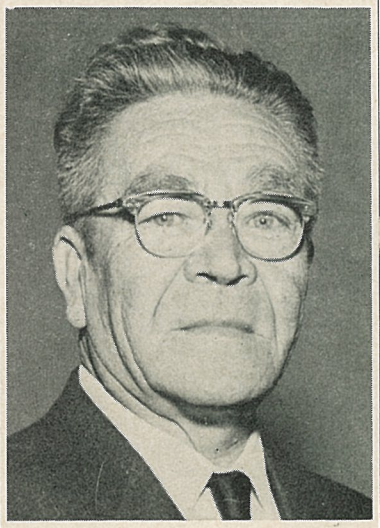
PIPER—Charles W., Dept. 280. Seniority date July 8, 1940, retirement effective Jan. 15, 1962.

RAINEY—Robert F., Dept. 401. Seniority date Dec. 19, 1951, retirement effective Jan. 19, 1962.

SALAS—Jose J., Dept. 160. Seniority date April 3, 1951, retirement effective Jan. 19, 1962.

SPATNICK—Joseph, Dept. 101. Seniority date Aug. 31, 1950, retirement effective Jan. 5, 1962.

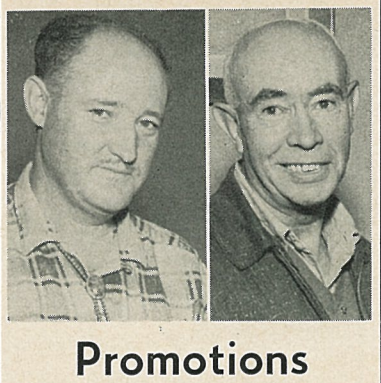
VOGEL—Robert L., Dept. 34-1. Seniority date Nov. 7, 1951, retirement effective Jan. 3, 1962.



DOUBLE OCCASION—Emil Heckman, Dept. 101, on Jan. 18 received diamond ring, gift of his choice, and service emblem from GD/Convair President J. H. Famme, in recognition of thirty years Convair service. Following day he retired.



New 25-year men include, left above: J. L. Williamson, Dept. 401; right above, M. B. Furhmann; Dept. 129; below left, D. A. Jones, Dept. 140; below right, Harry Bolton, Dept. 160.



Promotions

CONVAIR

Promotions to or within supervision effective Jan. 15.

Dept. 15-0, Customer Service: To service parts administration supervisor, L. Hayes. To service parts provisioning supervisor, L. N. Kenyon.

GD/ELECTRONICS

Dept. 6, Operations: To general foreman, D. C. Newlon. To foreman, H. D. Palmer. To assistant foreman, W. J. Connors.

Births

CONVAIR

LEMON—Daughter, Christy Jean, 7 lbs., 6 oz., born Jan. 6 to Mr. and Mrs. John P. Lemon Jr., Dept. 192.

Deaths

CONVAIR

BLETTNER—Richard J., Dept. 123. Died Jan. 11. Survived by wife, Mabel; son, Richard D.; two brothers.

CRIST—Merl I., Dept. 120. Died Jan. 14. Survived by father, two brothers, sister.

LAMB—Harold D., Dept. 91. Died Jan. 14. Survived by wife, Cecelia, three daughters, son, three sisters.

TINNIN—R. E., Dept. 99 (formerly Dept. 3-1). Died Jan. 2. Survived by wife, Doris.

General Dynamics NEWS

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MEMENTO—J. H. Famme, GD/Convair president, accepts desk model of C-141 cargo jet transport from H. Lee Poore, Lockheed C-141 manufacturing manager (second from right). Looking on are (from left) D. R. Stewart, GD/Convair C-141 contract administrator; W. W. Beal, Lockheed C-141 purchasing representative; R. A. Neale, GD/Convair general manager; N. F. Hill, Lockheed C-141 subcontracts material administrator; and (at far right) J. M. Adamson, GD/Convair C-141 project manager.

C-141 Deliveries Slated in '63 To Lockheed Co.

(Continued from Page 1)

begun early this month within the C-141 engineering group. First releases to the shop are slated for early February to put into motion the actual cycle of tooling, fabrication, and machining of parts.

C-141 production work will be done at Plant 2. Detailed fabrication and machining will be in Bldg. 1 and assembly operation in Bldg. 2. High utilization of numerical-controlled milling and profiling machines is expected, said Adamson, to take advantage of the low tolerances possible in attaining optimum weight specifications.

Preliminary design specifications are already under way on the leading edges, added Miller.

Roger Lewis to Join Dynamics

(Continued from Page 1)

ecutive committee. Under his leadership, the jet transport problem has been brought under control.

"Engineering solutions to the problems of the 990 commercial jet transport have been found, and delivery of the aircraft to its airline users has begun.

"Financial arrangements with banks and with the Prudential Life Insurance Company have been recast; these arrangements should provide needed financial support for the foreseeable future.

"The management of the company's operating divisions has been made stronger than at any time in the company's history.

"Since Mr. Pace has decided not to stand for re-election, we are pleased that the corporation has been able to obtain, as its new president, a highly successful executive with special experience in the aerospace field. We are also fortunate in being able to retain the services, as Chairman of the Board, of Earl Johnson.

"Mr. Pace will, of course, continue to direct the affairs of General Dynamics for the next three months. While the executive committee has kept in intimate touch with the affairs of the corporation, its role is not operational."

Hardison Teaching Class in Spanish

An intermediate class in conversational Spanish is being offered by the San Diego city school adult education program Monday nights at Hoover High School. J. M. Hardison, GD/Convair, instructs.

First session convened Monday night in Room 213, and will continue each week, 6:30 to 9:30 p.m.

Personals

CONVAIR

The sympathy and kindness displayed by Convair friends at the death of Carl R. Hendriksen (Dept. 400) will always be held in grateful remembrance.

Mrs. Phillis Hendriksen and family.

* * *

We deeply appreciate the kindness of Convair people at the loss of our husband and father, R. J. Blettner, Dept. 123.

Mrs. R. J. Blettner and son.

Automatic Machine Capability Given a Boost at GD/Convair

(Continued from Page 1)

the fixture to four different positions, performing all operations in each position on all six on each side until a complete cycle has been made and all 24 are completely machined.

Fixtures are placed on the hydraulically-controlled pallet shuttle with one in work, one completed ready for removal, and another waiting. It takes but a fraction of a minute, merely 7 or 8 seconds, for the machine to shift work pallets to automatically change operations for completely different parts, explained Cooper.

Tolerances as close as .0005 of an inch are possible.

Programming is done by numerical-control programming group in tool engineering under direction of R. F. Schweitzer, planning analyst. H. E. Meyer and R. L. Bales did the programming for first production parts.

Specially trained for operation of the machine are D. H. Yaeger and J. B. Hinojos, set-up men; P. Tanida and J. Westrom, operators, all reporting to F. I. Garrison, Dept. 115 foreman.

Another automatic machine, a numerical-controlled profiler for heavy duty machining, is on order for June delivery. The two new automatic machines, both to be located in Bldg. 1, Plant 1, are in addition to the numerical-controlled equipment in use at Plant 2 during the F-102/106 programs.

Japan Air Lines Pilots and Engineers Complete Training at GD/Convair Plant

A year-long training program for Japan Air Lines pilots and flight engineers ended this month at General Dynamics/Convair plant.

Last group completed their 15 hours in the 880-M cockpit procedures trainer Jan. 19, to make a total of 81 JAL crewmen who have been briefed since November, 1960.

Since JAL production flight training began that fall, Japanese pilots and flight engineers have been arriving at the San Diego plant in small groups to learn 880-M systems and instrumentation firsthand.

Besides those coming to California for procedures trainer classes, a full-term flight training course of five weeks was given by GD/Convair flight engineer/instructors to a group of 25 JAL training specialists. These, in turn, have been conducting courses for JAL men who will be flying 880-Ms. Ground school training has been done at both the San Diego plant and at Tokyo JAL headquarters, during the last year.

Similar production flight training is now in progress for 17 crewmen from Cathay Pacific Airlines.

C. Z. 'Dad' Sheppherd Dies at Age of 93

C. Z. "Dad" Sheppherd, for 22 years a colorful personality at GD/Convair, died Jan. 20 at the age of 93.

Born in Missouri, he came to California 76 years ago in a covered wagon. He joined Convair in 1936 and retired three years ago.

An ardent horseman, he rode in local parades until two years ago. He will best be remembered for his handle-bar mustache, bemedaled vest, and ten-gallon hat, which he wore on special occasions.

He is survived by a son, four daughters, seven grandchildren, and 11 great-grandchildren.



LAST CLASS—Final group of Japan Air Lines pilots and flight engineers winding up 880-M cockpit procedures trainer program at GD/Convair are (seated from left) Takeshi Yamauchi, Teruo Takahashi, Akira Nishimi, Masao Kusayama, Takuzo Inoue, Eiji Kimoto, Suzuo Matsui. Standing is J. B. Van Houten, senior flight engineer-instructor in 880-990 production flight training.

Long Accident-Free Record Earns Coveted Award Of Air Defense Flying Safety For F-106-Sqd.

One of the most coveted Air Force awards, the Air Defense Command's Flying Safety Certificate, has gone to a Fighter-Interceptor Squadron flying Convair-built F-106s.

The 318th FIS, based at McChord AFB, Tacoma, Wash., won the award for flying a year, from Aug. 1, 1960-1961, without an accident, reports R. L. Cormany, General Dynamics/Convair field service representative with the 325th Fighter Wing.

The squadron had won the award twice before, once while flying Convair-built F-102s.

Col. Martin Johansen, squadron commander, passed on credit to the maintenance people who keep the planes in good mechanical condition.




AA FLAGSHIP NEWS

PUBLISHED WEEKLY FOR THE EMPLOYEES OF AMERICAN AIRLINES

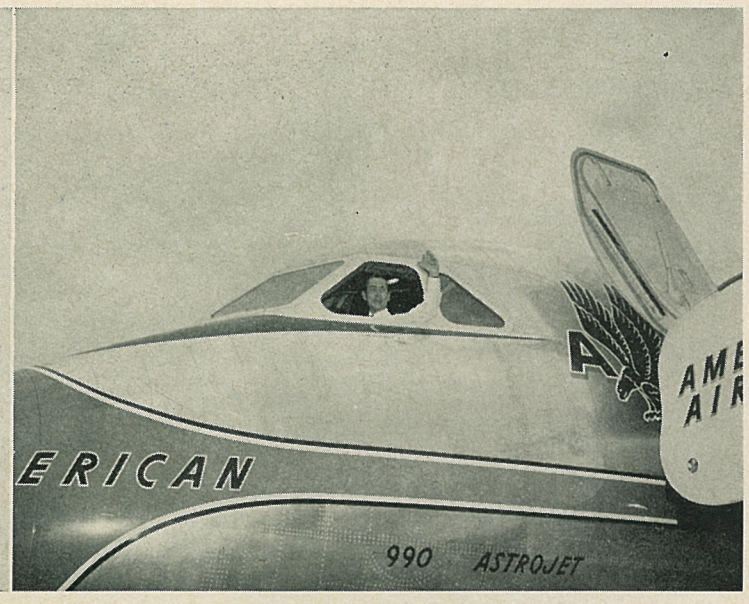
990 Astrojet Joins AA Fleet

First Delivery Made At San Diego; 2nd Plane Due at TULE

Traffic Rose 6% in Month Of December

Another Record

U. S. Counts on Airline Employees in 'Visit U.S.A.' Plan: Gilmore



AT TAKEOFF—First American Airlines 990 to leave San Diego, second accepted by airline at GD/Convair, is shown at Lindbergh Field just before takeoff for Tulsa, then on to New York, Jan. 12. In shot at left, American stewardesses line ramp steps with an American Airline station agent at bottom. Standing at his left are A. W. Perkins, AA customer representative at GD/Convair; Dick Parsons of GD/Convair commercial contracts; GD/Convair pilot John Knebel. In shot at right, American Airlines acceptance pilot W. K. Owen waves from cockpit before liftoff. In center is reproduction of American Airlines publication announcing 990 deliveries and due date at TULE, code name for Tulsa Maintenance Base. Below, 990 is fueled and serviced at terminal with GD/Convair plant in background.

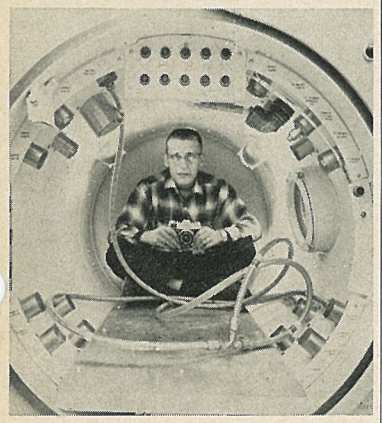


Photo From Inside Looking Out Is Off-Beat But It Tells Story

Fortunately, Dave Mathias, General Dynamics / Astronautics photographer currently stationed at Schilling AFB, does not suffer from claustrophobia. That means he isn't afraid of being shut up in a trunk, or some such place.

The tense might be wrong, however. Maybe it should be past tense: "Dave Mathias once upon a time did not suffer from claustrophobia . . ." That much appears to be certain, because not long ago at Forbes AFB he slipped his 5 ft. 5 in., 120 lbs. into a 33-in. diameter device that Rocketdyne uses at Astro main plant as well as at off-site bases to check out components connected with the Atlas missile propulsion system.

The experience well may have given him the darnest case of claustrophobia on record. However, when he crawled out—claustrophobia or not—he had recorded on film a real strange looking picture of a Rocketdyne technician at work.

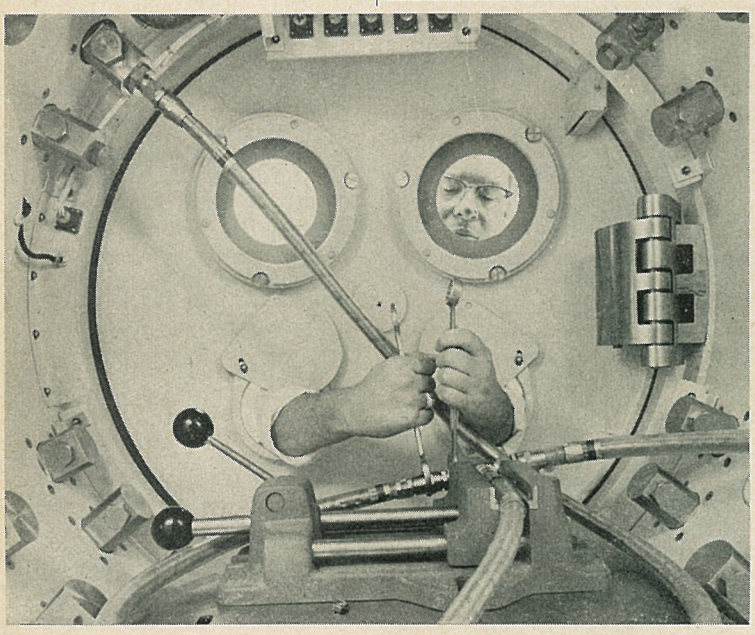


INSIDE — Reminiscent of cartoon "People Are No Damn Good" and also of "Cremation of Sam Magee" is this photo of Photographer Dave Mathias on inside looking out.

Technicians Author Cryogenic Article

An article by two General Dynamics/Astronautics technicians appears in the January issue of Western Metalworking.

W. R. Atkins and J. W. Whitehead, both Dept. 756, have worked extensively in GD/Astro's pioneering cryogenic test facility. Their article is titled "Material Test Methods at Cryogenic Temperatures."



WHAT BIG EYES!—This is scene inside "components pressure test unit" during checkout of items used in Atlas missile propulsion system. Those aren't shirtsleeves, but tight-fitting cloth that seals off air leaks.

F-106 Flies Record Sorties in Month

What may be the record for utilization of a single F-106 was chalked up during the month of December by a Convair-built jet interceptor based at Castle AFB, Calif.

The craft flew an individual total of 67 hours and 50 minutes in 35 sorties during the one month. It is attached to the 456th FIS. GD/Convair field service representative at the base is C. W. Stevens.

VALUE COORDINATOR NATIONAL DIRECTOR

C. W. "Smoky" Doyle" spares value control coordinator at GD/Fort Worth, has been appointed a national director of Society of American Value Engineers (SAVE).



C. W. Doyle

Larry Miles, the "father of value engineering" and president of SAVE, selected Doyle for "his outstanding contribution in the field of value engineering."

Doyle is also a director of the Dallas-Fort Worth SAVE chapter. He has appeared as guest speaker on the subject at a number of value engineering seminars across the country and assisted a number of subsystem vendors in organizing value-control programs.

The new SAVE director has also presented value engineering seminars to Army, Navy and Air Force groups.

Research Engineers To Address Forum

Two GD/Fort Worth manufacturing research engineers will appear on the Symposium on Electroforming, conducted by American Society for Testing and Materials, Feb. 6 and 7 in Statler Hilton Hotel, Dallas, Tex.

They are D. L. Allie, who will speak on "Electroforming Hardware for Aerospace Vehicles," and E. W. Turns, who will present a paper on "Alloy Electroforming for High Temperature Aerospace Applications."

Horne Says Industry in Danger Of Losing Quality in Products

Reliability has become a question that management must understand, and not just "support," C. F. Horne, General Dynamics/Pomona president, told the 8th National Symposium on Reliability and Quality Control early this month in Washington.

Making the keynote speech on "A Management Appraisal of the Reliability Challenge," Horne said it is easy for a top manager to say "Well, I support you." The question, he added, is whether he understands what is going on.

In this day and age, he said, if management does not have a reasonable understanding of reliability, quality control and related matters, trouble is in the offing.

The military, he added, is cognizant of its troubles and responsibilities in this field and is doing all it can to make its requirements clear.

In regard to reliability in general, Horne stated:

"I find it very difficult to find any high quality goods in consumer products. I think we are in grave danger of losing what we had many years ago, when our artisans took personal pride in the reliability and quality of their products."

This means, he said, that all levels of management have got to take personal and individual pride in the product, assuming the role the artisan once had.

"Let me emphasize," Horne stated, "that today reliability is strictly tied in my mind with the question of national security and national survival.

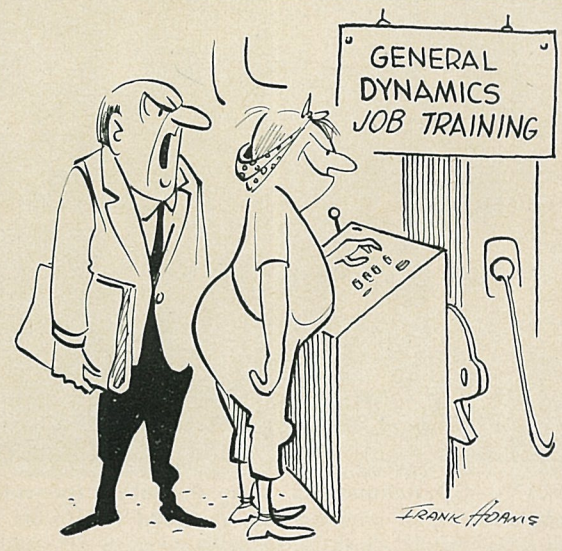
"If we are going to protect the freedoms that are essential to our democratic philosophy, as well as stay in business, we have got to find ways of producing better and more reliable equipment at less cost," he declared.

Canadair to Start Value Engineering

E. D. Heller, General Dynamics/Pomona value control coordinator, and B. P. Schroeder, educational services value control training supervisor, will journey to Canada next month to help establish a value engineering program at Canadair Limited.

Frank W. Clark, Canadair's general supervisor of training, and John Gilmore of Canadair's training department attended GD/Pomona's 19th value engineering seminar, which was concluded Jan. 26, in preparation for conducting the seminar program at Canadair.

Canadair's first value engineering seminar will be conducted Feb. 12-23.



"The idea is to master the machine, Mrs. Gaskin . . . We don't use the term 'outwit' . . ."



PROUD CRITIC—GD/Astro artist Merle Walker watches as son Jerry, 10, is absorbed in drawing one of series of comic strips on which he works regularly. Jerry, who both writes and draws his picture stories, has been dabbling in art since three years old.

Young Artist

GD/Astro Son, 10, Absorbed In Comic Books—He Draws 'em

SCHILLING AFB—At an age when most youngsters settle for reading comic books, Jerry Walker, 10, son of GD/Astro's Merle D. Walker, Dept. 322-9 here, is drawing his own!

No crude school boy sketches, but fully-plotted cartoon series of near-professional quality are turned out by Jerry with great regularity.

Usually taking a science fiction tack, his picture stories include well-chosen "headline" panels depicting the high point of the plot, and show a skillful change of viewpoint from panel to panel.

"Jerry reads comic books avidly, and has learned the techniques of writing and drawing solely from his own observations," said his father. "While I encourage his artistic activity, I have never coached him or given him formal instruction."

This is significant because Walker is art and illustration coordinator for support publications here, and a trained artist.

This month one of his oil paintings was entered in a competition at the National Academy of Design, New York, while other of his works are displayed in galleries from coast to coast.

Space Conditions Simulated In Hunt For Life Ingredients

Experiments conducted by a General Dynamics scientist have indicated that organic compounds—the basic ingredients of life—are now being formed in outer space.

Dr. Rainer Berger, GD/Astronautics space scientist, announced results of his studies in the Proceedings of the National Academy of Sciences.

He also reported on them recently at a scientific symposium in New York City, and at NASA's Goddard Space Flight Center, Greenbelt, Md.

Theorizing that organic substances could result from the effect of cosmic radiation on materials found on many comets, icy meteors or larger cold bodies comprising much of the mass of the universe, Berger simulated the situation in the laboratory.

He froze a mixture of methane, ammonia and water at the temperature of liquid nitrogen (about 383 degrees below zero), and bombarded it with a stream of protons (hydrogen atom nuclei). Radiation bombardment was accomplished with the 60-inch cyclotron at Crocker Laboratory, University of California at Berkeley.

After 200 seconds, the frozen mixture yielded urea, acetamide and acetone. The period of radiation exposure approximated proton impact frequency anticipated during the lifetime of a comet of the age of the solar system.

Because the experiment approaches duplication of potential occurrences in outer space, indications are that organic compounds are formed on a large scale throughout the universe.

"However, there is a big step between the production of simple chemical materials, and what we regard as 'life,'" Berger cautioned.

In presenting results of his experiments, Berger cited work of other scientists in related areas of research. These included Dr. Stanley Miller and Dr. Harold Urey, University of California, San Diego; Dr. Melvin Calvin and associates, University of California, Berkeley; a Fordham University team headed by Dr. Bartholomew Nagy, and others.



GAY '90s??—GD/Astronautics' base activation sponsored January Management Club meeting, but received help from product support for ticket sellers. Girls, all employees, show off their striking costumes. Girls are Gloria Anderson, Sheila Gallagher, Carrol Laywell, Barbara McDonald, Jeanice Shairah and Betty Wise.

Fire Loss Zero At GD/Convair; A Record Year

Insured fire loss at General Dynamics/Convair for the entire year of 1961 was exactly zero for the first time on record.

In an end-of-the-year appraisal of the preceding twelve months, F. G. Merritt, chief of industrial security, reported no loss from fires. "This enviable record is a direct result of the interested cooperation of all GD/Convair departments with our stepped-up program of housekeeping, fire prevention, and fire inspection," he said.

"Potential fire hazards have been recognized and eliminated by continuous inspections by the fire inspector, round-the-clock coverage by every fireman, and intelligent concern of all employees and supervisors."

Fire department activities during 1961 included response to 102 minor fires. Of these, 33 involved wood, paper or trash; 24, flammable liquids; 38, electrical equipment; and 7, magnesium.

Eleven fire apparatus runs were made to automatic sprinkler alarms and 57 responses to emergency landings on Lindbergh Field. Ten Air-Evac stand-bys were made for patients on mercy flights into Lindbergh Field, and one response was made to a reported bomb aboard an aircraft at the San Diego airport.

Merritt attributed the no-loss record in large measure to fire department Chief D. D. Dimmitt who has accelerated the drill program and initiated new fire prevention policies.

Dimmitt heads a crew of 61 firemen and seven officers who are responsible for fire protection of GD/Convair Plants 1 and 2, including GD/Electronics facilities at these points; the seaplane ramp; Advanced Products; Model 8 field operations; Corporate Office Bldg. 19; Lindbergh Field. One fireman is on duty days at Rose Canyon and regular inspection made at Rosecrans and Melrose warehouse sites.

Delta 880s Streak To New Speed Marks

Two more official speed records were chalked up this month by Delta Air Lines' Convair 880s.

One 880 jetliner speeded from Los Angeles to Atlanta, Ga., in three hours, one minute, and 16 seconds, aided by 80 mph tail winds. This cut nearly 45 minutes from the previous record.

Another 880 made the distance between Los Angeles and New Orleans in two hours, 48 minutes, breaking a June 1, 1961, record. Previous best time was three hours, 27 minutes, 12 seconds.

Both flights were made Jan. 15 and timed by National Aeronautical Association.

Sonic Boom Program Held in Milwaukee

A one-day SAC-GD/Fort Worth B-58 sonic boom orientation program was conducted recently for civic, business and news media representatives in Milwaukee.

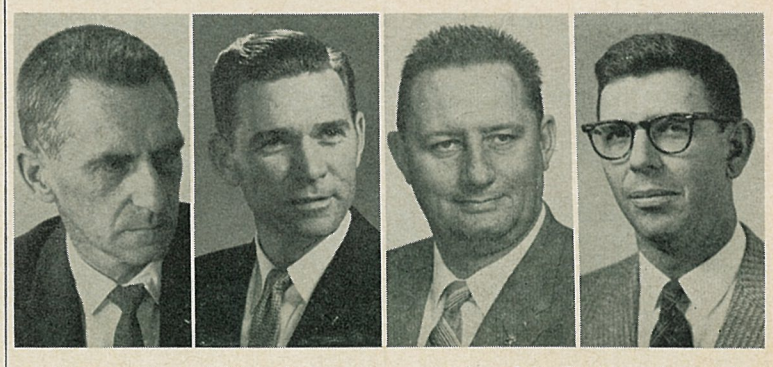
Presenting the program were: Brig. Gen. Howard W. Moore, Commander 19th Air Division; Col. F. L. O'Brien Jr., commander 305th Bomb Wing; Lt. Col. R. G. Darelius, Carswell AFB information officer; L. L. Turner, special assistant to the GD/Fort Worth president; and Mal Holloway, of the president's office.

HIGGINS PANELIST ON IND. SECURITY

George D. Higgins Jr., General Dynamics director of industrial security, will be among panelists tomorrow (Feb. 1) at an American Management Association conference in New York City. Higgins, president of the American Society for Industrial Security, will discuss key elements in industrial preparedness, including development of a company's plan for operating under emergency conditions.



PIONEERS—Among those who began Atlas program more than a decade ago were, from left: C. S. Ames, W. H. Patterson, Karel Bossart, Jack Bowers, Lloyd Standley.



Other members of Atlas pioneer group were, from left: Dr. Howard Dunholter, W. B. Mitchell, James W. Crooks, Frank J. Dore.

Dedicated Band Began Task That Led to Atlas

(With this installment, No. 76, General Dynamics NEWS continues history of noteworthy Dynamics products, in this case early research which culminated in Atlas missile.)

Gen. Carl Spaatz disclosed Air Force interest in an intercontinental missile program in August, 1948, when his farewell report as chief of staff noted that "special emphasis should be given to development of a supersonic surface-to-surface missile capable of carrying an atomic warhead 5,000 miles."

Actually, such a program had been initiated secretly three years earlier. The Air Technical Service Command invited the aircraft industry on Oct. 31, 1945, to submit proposals for participation in a broad missile research and development effort. The invitation specified four ranges, the shortest 20 to 175 miles, the longest 1,500 to 5,000, placed emphasis on supersonic speeds, and established control and accuracy criteria for each range.

Convair assigned this project to Vultee Field, already at work on short-range rocket and ramjet designs. A formal proposal was forwarded to Dayton Jan. 10, 1946. This resulted in a contract April 22 for a $1,400,000 study and development program. In June Wright Field requested acceleration of the project and increased contract funds to $1,893,000.

Karel J. Bossart, a Belgian-born engineer and chief of structures at Downey, Calif., (Vultee Field) emerged at once as the genius of what was to be a long and difficult undertaking. He obtained appointment as project engineer and was soon surrounded by a small group of associates whose enthusiasm and esprit recalled that of the Von Braun group in the Germany of the 30s. Among these engineers (all holding key positions in the Atlas program 10 years later) were W. H. Patterson, F. J. Dore and W. B. Mitchell, aerodynamicists; Charles S. Ames, design engineer; Lloyd W. Standley, assistant project engineer; Dr. Howard Dunholter, thermodynamicist; and James W. Crooks, electronics engineer.

"We were bitten by a bug," Bossart recalled in later years. "We had the inspiration of missionaries. We had to convince people, do a selling job. We had to work hard at it, and we did."

There were two broad approaches to the problem of sending a warhead nearly a fourth of the way around the earth. It might be carried by a winged, air-breathing vehicle, perhaps a ramjet flying in the stratosphere. Or it might be rocketed on a ballistic trajectory high above the earth, traveling like a giant artillery shell.

The German Army began ballistic missile studies in 1930, following a decade of intensive rocket research by scientists and technicians. Military specifications for the A-4 missile—later renamed the V-2—were established early in 1936, and the first full-sized V-2 was launched in 1942. This weapon was used beginning Sept. 8, 1944, to bombard London and other Allied targets from distances up to 200 miles.* The Germans also planned an intercontinental missile, the A-9/A-10, with which they hoped to strike New York City from Europe by 1946. This would have employed two stages, the first a mammoth 85-ton booster rocket, the second a V-2 modification with vestigial wings. (On re-entering the atmosphere this section was expected to acquire lift and climb back out, thus stretching its range with a series of skips.)

***Data on the V-2: DIMENSIONS—length 46 ft., diam. 5 ft., 5 in. (across fin 11 ft., 8 in.); WEIGHTS—empty (with warhead) 8,818 lbs., takeoff 28,440 lbs.; FUEL—alcohol (25 pct. water) 8,740 lbs., liquid oxygen, 10,975 lbs., rate of consumption, 280 lbs./sec.; THRUST—at takeoff 55,100 lbs., exhaust velocity 6,725 ft./sec.; ACCELERATION — at takeoff 0.9g, at burnout 5g.; COURSE BY SECONDS—vertical 4, passes Mach 1 at 25, completes tilt to 49 deg. at 54, burnout at 60-65; VELOCITIES—max. along trajectory 1 mile/sec., at impact 3,000-3,600 ft./sec.; HEIGHTS—at burnout 13.7 miles, at apogee 50-56 miles; RANGE—199 miles.**



New Service Emblem Design Adopted For General Dynamics

Service emblems of a new General Dynamics design are being issued at most divisions.

They replace emblems of the old Convair design as well as one used to recognize service for the old Stromberg-Carlson division. The new pins carry the familiar "GD" symbol along with a numeral indicating the number of years involved.

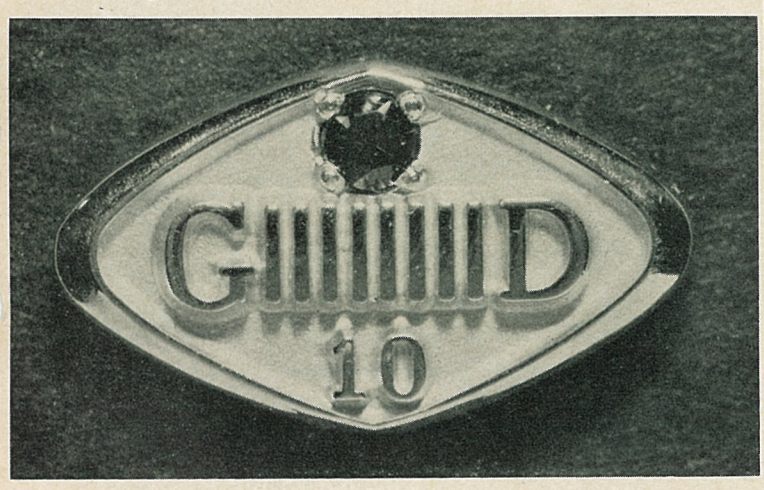
The 10-year emblem carries a small emerald, the 15-year a sapphire, the 20-year a ruby. Beginning with 25 years and continuing to 50 years emblems involve dark backgrounds and diamonds of increasing size.

Up to 15 years, emblems are issued either as tie tacks, lapel buttons or pins, as desired. For feminine employees with 20 years or more service, emblems are also issued in bracelet form; and for men, tie bars are offered.

The new emblems are being issued as they come due at most points in San Diego (including General Dynamics/Electronics, GD/Convair and GD/Astronautics) and at GD/Fort Worth and GD/Pomona. In Rochester, N.Y. stocks of the new emblems have not yet arrived but are expected soon and will be issued to GD/Telecommunication and GD/Electronics personnel as soon as available.

Meanwhile, stocks at most points are limited at this time and insufficient to permit sales to employees who might wish to replace old-design pins with the new ones. Ultimately, however, they will be made available at cost.

The attractive new design is intended to emphasize General Dynamics Corporation service, rather than service in any particular division. Replacement of old pins is optional.

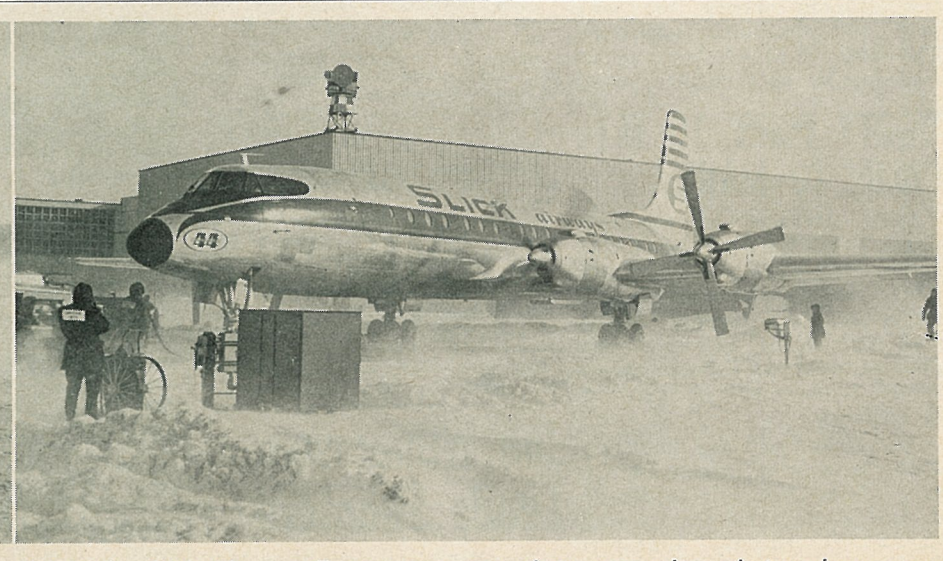


10 YEARS—Several times natural size, this is photo of new service emblem for General Dynamics.

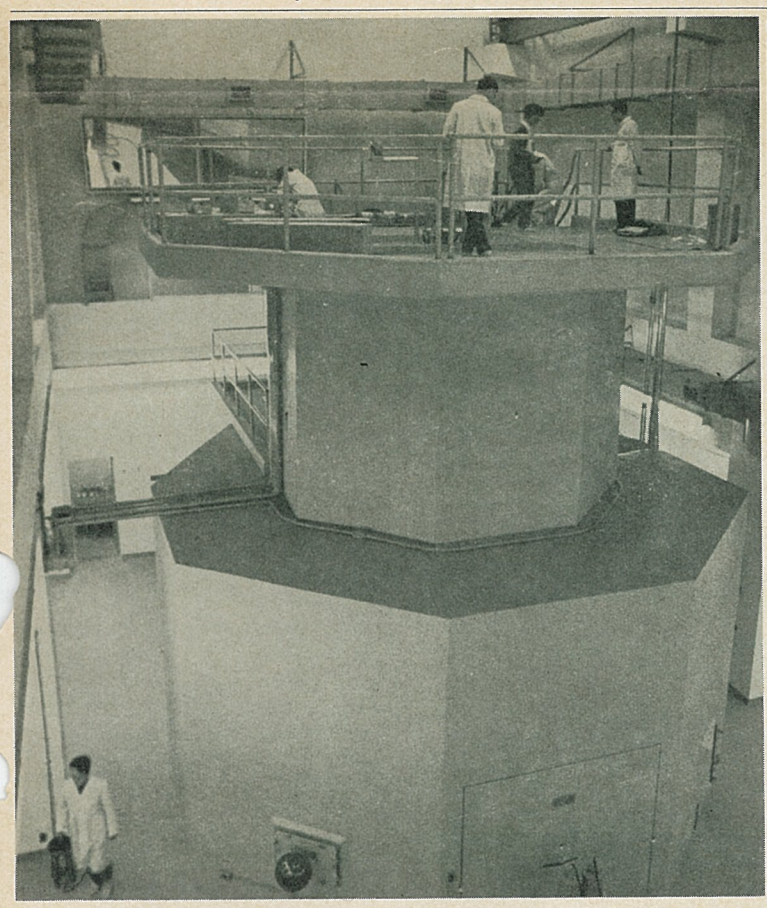


30 YEARS—Service emblems recognizing 25 years and more of service include dark background.





SNOWY TAKEOFF—Canadair Forty Four left Montreal Jan. 17 in teeth of blizzard but arrived safely at Burbank, Calif., where it will go into service carrying freight for Slick Airways. Temperature was about zero when photos above were snapped on eve of departure.



REACTOR IN JAPAN—A missionary gift from U. S. is atomic research reactor supplied and installed by GD's General Atomic Division at St. Paul's University in Yokosuka, Japan.

TRIGA, Gift to Japanese, Takes Up Research Role

A unique missionary gift in the form of an atomic research reactor is in operation at St. Paul's (Rikkyo) University's new Nuclear Research Institute in Yokosuka, Japan.

Supplied and installed by General Dynamics' General Atomic Division, the self-regulating TRIGA is the result of $300,000 raised by American Episcopalians in free will offerings. In addition, various Japanese concerns contributed funds for buildings and other facilities of the Institute.

"Through this gift, American Christians will share the potential and realized blessings of atomic energy with a people who, in the past, have known little of its blessings but much of its curse," the Rt. Rev. Arthur Lichtenberger, Presiding Bishop of the Episcopal Church, said.

Dr. Frederic de Hoffmann, president of General Atomic, was present for the startup of the reactor last month and since then the University reported that TRIGA is being brought up to its normal, steady-state energy level of 100 thermal kilowatts. It will be used for academic, agricultural and industrial research, medical applications, and the training of nuclear scientists and engineers. Radioisotopes will be supplied to hospitals.

New Radar Monitor Device Developed As Continuous Check on Performance

A new, continuous radar performance monitor (RPM) that can quickly and accurately detect malfunctions in both long-range and short-range radar sets is being produced by General Dynamics/Pomona.

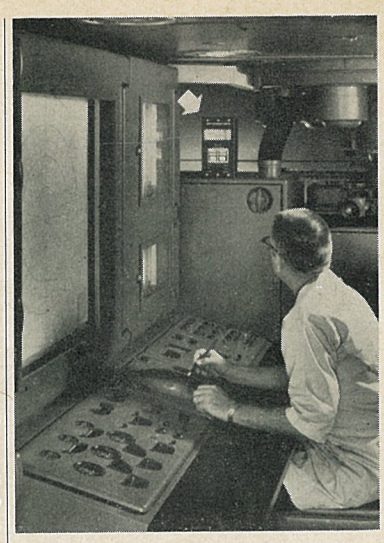
A GD/Pomona development, RPM solves a long-existing radar problem — degradation of long-range detection that may go unnoticed for an extended period of time. The unit is currently being produced for the U. S. Army Signal Corps.

Loss in detection range sometimes is due to a malfunction of the radar, but may also be caused by externally-produced interference, commonly known as "jamming." In either case, the loss of range may occur at any time, and usually is not immediately discernible.

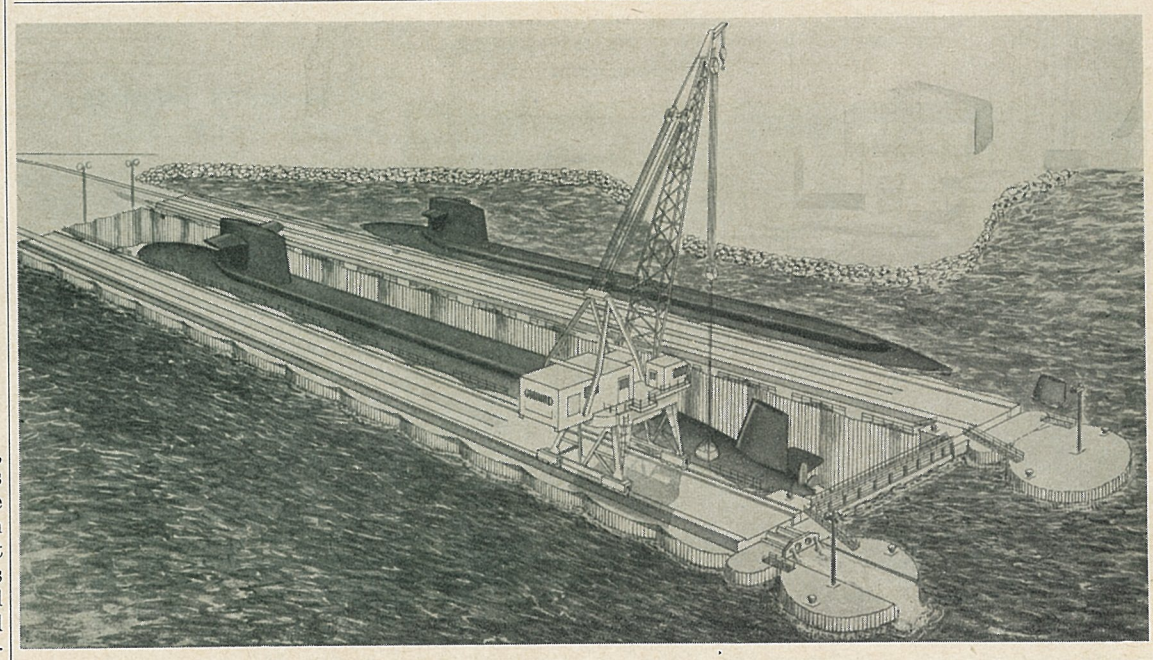
The new monitor eliminates time-consuming procedures required with standard test equipment to determine radar effectiveness. It displays the maximum detecting range of the radar, and isolates any malfunction to either the receiver or the transmitter. And it also gives an instantaneous indication when a variation in range is caused by jamming.

The unit requires no auxiliary test equipment or accessories for its operation, and it contains self-checking features to insure that indicated trouble is in the radar and not in the monitor. No major modifications of any radar circuitry are required for its installation.

In a tactical situation where several radars are assigned to cover a specific area, RPM indicator panels for each set may be located in a command center. Thus, if one radar loses detection range, it is noticed immediately and corrective measures may be taken.



CHECKING — R. W. Donnelly of GD/Pomona radar systems group glances at radar performance monitor (arrow) to check possible malfunction.



DOCK-TO-BE—Dredging is under way at GD/Electric Boat, Groton, Conn., for 12,000-ton capacity graving dock, which when completed in late fall will be able to drydock any nuclear submarine now envisioned. Equipment is removing 135,000 yards of silt which barges dump at sea. The dock will be 512 feet long.

If Medical Expenses Itemized, Dependent Costs Can Be Added

Dependent insurance paid during 1961 may be deducted by General Dynamics people itemizing medical expenses for income tax returns.

Following deductions are listed for GD/Convair, GD/Electronics, Advanced Products, General Office personnel at San Diego:

Jan. 1 through Sept. 30, $2.77 per week; Oct. 1 through Dec. 31, $3.07 per week.

Employees in a bargaining unit which did not accept major medical expense benefits for dependents may deduct $2.48 per week for the entire year.

In addition, employees may deduct the portion of the disability insurance premium that is actually applied toward hospitalization insurance.

For 1961, that portion is 15.3 per cent. For example, anyone who was paid $3,600 or more by the company during the year paid $36 disability insurance. Therefore, $5.51 of that amount is deductible as medical expense.

An employee who was paid $2,000 during the year paid $20 disability insurance and could deduct $3.06.

'FORTY FOUR' TO FLY CALIF. TO MANILA

Slick Airways of Burbank, Calif., is the third airline to take delivery of the Canadair Forty Four, world's first and only swing-tail cargo airplane. Delivery took place at Canadair's plant at Montreal, Canada. Slick's second airplane will be delivered in February.

The airline will use its Forty Fours in carrying passengers and cargo from California to Manila or beyond, under a contract with the U. S. Military Transport Service.

Other airlines in the United States flying the Forty Four are Flying Tiger, which has so far received six of its order of 10, and Seaboard World, which has taken delivery of the first three of its five. Together, the two airlines amassed a total of more than 50 million ton-miles with the Forty Fours during the last six months of 1961.

Refresher Course In Sq. Dance Offered

Square dancers at GD/Convair are being offered a refresher course on Thursday nights at 8 p.m., in the American Legion Hall, 4061 Fairmount Ave., said CRA Commissioner Maury Scholz.

Plans are moving ahead for the Tri-Association ball which is scheduled for Saturday night (Feb. 24), at the same location. There will be dancing from 8 to 11 p.m. with a "red-hot" dance from 11 to 12 p.m. Guests will be served a buffet supper.

The event will honor federation officers of the three clubs, Palomar, Heartland, and San Diego, which make up the association. Guest callers from each club will be featured. Don Browne, Convair Hoedowners' instructor, will emcee the affair.

Enrollment Remains Open

Enrollment for in-plant classes beginning this week at General Dynamics/Convair is still open to GD/Convair and GD/Electronics people.

Over 70 persons had registered for the new semester courses by last week, said Wayne Turner, educational services coordinator. However, there are openings for more students and registrations will be accepted for a limited time by contacting Turner at ext. 491, Bldg. 15, Plant 1.

Courses, meeting days, times, and instructors are:

Basic Technical Writing—Tues. and Thurs., 4-5:15 p.m., Room 7, Bldg. 4, Plant 1, Allan Walden.

Advanced Technical Writing—Mon. and Wed., 4-5:30 p.m., Room 7, Bldg. 14, Louis Henderson.

Practical Engineering Writing—Tues., 4-7 p.m., Room 8, Bldg. 14, Louis Henderson.

Basic Blueprint Reading—Mon., 4-7 p.m., Bldg. 38 (CRA Clubhouse Bldg.), Wes Young.

Electrical and Electronic Blueprint Reading—Mon., 4-7 p.m., Room 6, Bldg. 14, E. B. Milner.

Basic Electricity—Mon., 4-7 p.m., Room 4, Bldg. 14, Allan Walden.

Basic Electronics—Tues. and Thurs., 4-7 p.m., Room 6, Bldg. 14, E. B. Milner.

Slide Rule—Wed., 4-7 p.m., Bldg. 38, Wes Young.

Joe Williamson Leads Shooters

Joe Williamson and Vern Mardis stood one-two in both the .22-caliber Police Course and .22-caliber Short National Match in CRA Pistol Club competition Jan. 14.

Williamson (Dept. 401-5) scored 295 to place first in the master class; Mardis (Dept. 34) was next with 287. Third was Jim Halfacre (Dept. 180) with 283.

Ralph Benson, whose wife is in Dept. 250, shot a 282 to win the expert; E. E. Bickar (Dept. 215), second, 274; Ralph Picard of GD/Electronics, third, 270.

Top sharpshooter was Harvey Ingalls (Dept. 986-1) with 238.

Williamson's score in the Short National was 283. Mardis had a 281. Third place went to W. G. Walker (Dept. 6), 277; fourth to Halfacre, 276.

Henry Boyd to Head CRA's Garden Club

Henry Boyd (Dept. 31) heads CRA Garden Club as president following election of officers this month.

New vice president is John Barton (Dept. 146). Walter McVey (Dept. 34-1) is publicity chairman. A secretary is yet to be named, said Commissioner E. L. Zimmerman.

Members will meet Feb. 14 at 7:30 p.m., Floral Association Bldg., Balboa Park.



HOLLOMAN "SQUARES" — Chaparral Squares, GD/Convair square dancing group at Holloman AFB, N.M., have active schedule with 12 sets of dancers meeting regularly since formation this summer. Front row: Carole Manning, Dick Manning, Erma Watson, Corena Coppedge, Margaret Harlow, Ella Mae Denick, Edna Rice, Virginia Mahan, Nancy Reitzel; back row: Norman Watson, Sue Schmitt, Frank Schmitt, Harold Coppedge, John Harlow, Forrest Denick, Ernie Rice, Wayne Mahan, Charles Reitzel.

Linksmen Will Play On Coronado Course

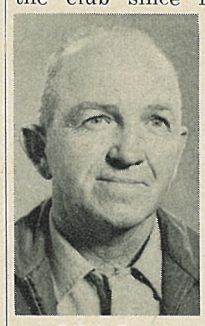
Entries open today (Jan. 31) for next month's CRA golf tournament, said Ken Wulfemeyer, CRA commissioner.

Call ext. 1705, Plant 1, for tee-off times at the Feb. 10-11 match on the Coronado course. Deadline is Feb. 5.

East to Lead Road Runners

First commissioner of Convair's trailer group, the Road Runners, is Ralph M. East, announced James K. Field, chief of employee services.

East, who has been active in the club since its formation a couple of years ago, was president at the time of his appointment. Replacing him as president is Harry Rush, current vice president.



Ralph East

The new commissioner joined Convair over 21 years ago. He is now assistant foreman in final assembly (Dept. 160) and was with the F-102/106 program in primary assembly for several years.

He is a member of the CRA Rockhounds and Fishing Club and has taken part in Convair square dance activities. He, with his wife and 14-year-old son, have rarely missed a Road Runners jaunt during the last two years.

The CRA trailer club, first formed in March, 1960, has mushroomed into the second largest such group in San Diego county. It now boasts a membership of nearly 50 families. Trips to interesting or scenic spots throughout Southern California are planned each month with regular meetings held the third Thursday of the month at Gillespie Field's CRA Clubhouse.

Skin Diving Vessel Available For Trips

Convair Delta Divers will have the opportunity to join other San Diego skin divers on trips arranged especially for fans of the underwater sport.

The 46-ft. "Duchess," skippered by Al Santmyer, is available for open party or charter skin diving trips, reported CRA Commissioner Harry Ruscigno. Reservations can be made at the Diving Locker in Pacific Beach.

"This will give new enthusiasts a chance to get acquainted with other divers in the area, besides offering a lot of diving sport," Ruscigno commented.

Regular meetings of the Delta Divers are held the third Tuesday of each month, 7:30 p.m., in Convair executive dining room, Pacific Highway. Movies and refreshments will be on the program of the next meeting Feb. 20.

Rockhounds Inspect Desert Agate Site

CRA Rockhounds will gather next week (Feb. 8) for their monthly meeting at CRA Clubhouse, Gillespie Field, 7:30 p.m.

Local rock enthusiasts traveled to the Wiley Well area over last weekend (Jan. 26-27) to explore a new agate collecting site located by Harry Kinghorn, Dept. 48-46. Kinghorn was elected field trip chairman to lead the caravan.

Ice Skaters Schedule Weekend at Big Bear

Reservations are open to all Convair and Astro ice skaters for a weekend trip to Big Bear, Feb. 23-25.

Price for the jaunt is $11 per person. Deadline for signing is Feb. 16.

Astro people may call Dixie, ext. 600, main plant; Convair and Electronics, CRA headquarters, ext. 1245, Plant 1.



FLYING TIGERS—Self-styled GD/Convair "Flying Tigers" pictured above, standing left to right, Howard Krug, Clifford Moon, George Baxter, Carl Stark and W. F. Brown. Kneeling (l-r) are, L. D. Fouche and Warren Frase. Marjorie Manley, Jim's Air Service secretary, joined group of GD/Convair employees for picture.

SD Sports Car Drivers Select Tom Kienholz Sportsman of '61

Tom Kienholz of CRA Sports Car Club was tabbed for top honor for the year in San Diego sports car circles when he was named "Sportsman of the Year" this month.

Kienholz was presented the Forrest Adams award, given for the first time to the sports car enthusiast who contributed the most to sports car activities, at the San Diego Council of Sports Car Clubs' award night Jan. 20.

The same night he received the gavel as new president of the council.

And that wasn't the end of awards due Kienholz. He was called to the front again to accept a silver platter for second-place standing in all championship events during the last year. His accumulated point score was 141.

George Blondin, former Convair club member, was first with 149.

Other Convair sports car award winners were Del Griffin, fourth place, with 95; Peter Aperlo, fifth, 94; Chase Allen, eighth, 86. All received plaques.

Astro winners were George Kendall, tied for eighth with Allen, and Bill Rector, 13th, 74.

Convair club members will meet next week (Feb. 7) in the Convair executive dining room at 7:30 p.m. to make plans for their next big event, Seat of the Pants Rally set for March 25.

Education Functions Responsibility Set

In a realignment of responsibilities assigned GD/Convair educational services personnel, functions are outlined for five men reporting to H. W. Rubottom, chief of educational services.

M. S. Lachman, as executive and management development administrator, is in charge of engineering professional and technical development, Air Force Education-with-Industry program, coordination with California Western University.

W. H. Goggin is responsible for all GD/Electronics requirements and value control coordination.

L. E. Cook is in charge of quality improvement training programs and manufacturing technical development; W. F. Weidenfeller, employee induction, quality improvement, manufacturing technical development; L. W. Turner, apprenticeship program and coordination with San Diego City College.

Howard Harvey Double Winner

Howard Harvey (Dept. 6) was a double winner in CRA Camera Club quarterly competition Jan. 22.

He took honors on both his black and white entry and color slide. Others standing at the top of the judging were Ron Ainsworth (Dept. 6), black and white; his wife, Joan, and Allen Henny (Dept. 6), club president, in color division.

A slide presentation on home processing of Anscochrome color slide film will be feature of the Feb. 12 meeting, Photo Arts Bldg., Balboa Park, 7:30 p.m.

Additional attraction will be highlights of Mexico as seen on Henny's 2¼ color slides. Visitors are invited.

Twins Attend Radio Session

Inspiring guests at a recent meeting of ARA Radio Club were enthusiastic amateur radio operators Henry and Jack Johnson.

The twins, who operate with "call signs" WA6QMX and WA6QMY respectively, are both almost completely paralyzed, and must spend much of their time in "iron lungs." They were accompanied by their physician.

Revival of Chess Activity Forecast

Chess players at Convair will gather next Wednesday evening (Feb. 7) at 7:30 p.m. in CRA Clubhouse, Pacific Highway, to reactivate the CRA group.

If enough turn out to the opening meeting, a full schedule of CRA-sponsored activities, including tournaments and prizes, will go into effect, said Pete Beyrer of CRA.

Joe Murray (Dept. 6), member of the club for several years, is spearheading reorganization. Anyone at Convair or Electronics facilities, and members of their families, is welcome. Murray may be reached at ext. 2719 for more information.

Materials Managing Course Is Offered

Four evening classes in materials management will be offered during the spring semester at San Diego City College.

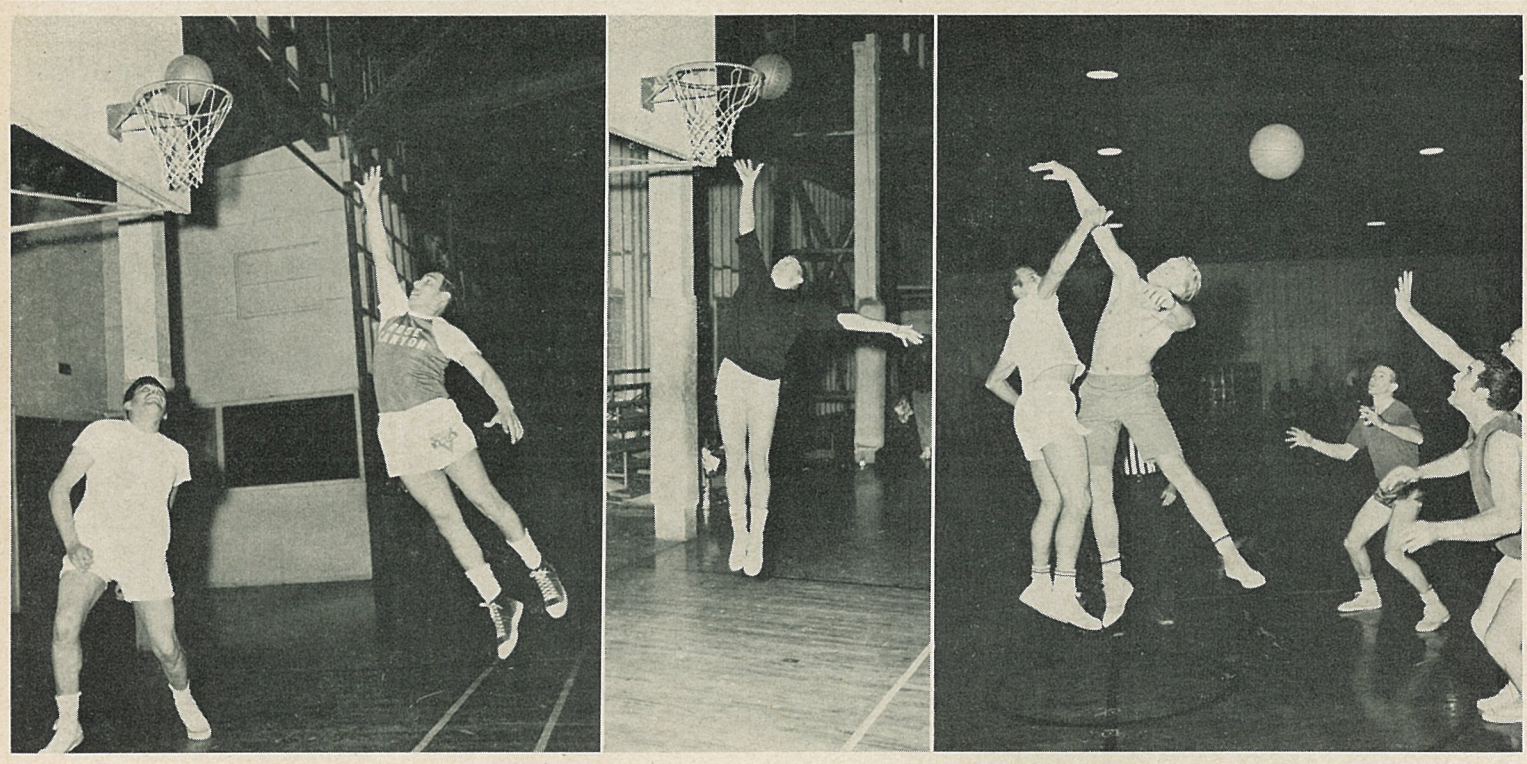
Courses, all part of a new curriculum in materials management, include an introductory course, and new courses in materials handling, cost estimating, and traffic and transportation problems.

Information may be obtained at educational services offices or through the student personnel office at the college.

157 Ave. Bowler Rolls 682 Scratch Series

B. W. Rimbach of GD/Convair's Dept. 47-2 at Rose Canyon, an average 157 bowler, outdid himself recently when he rolled games of 220, 231 and 231, for a 682 scratch series.

Rimbach rolls with the Astro Valley Mixed League at Poway Bowl. Previous high scratch rolled at the Bowl was 635.



IN THE AIR—Ball tippers of Electronics and Rose Canyon teams vie for high jumps in plant shop league play recently. At left: Ray Perez of Rose Canyon team is caught mid-air tipping one in as teammate Gil Chavez waits below. Center shot is of Les O'Neil, GD/Electronics manager and team captain, outstretched for catch. At far right, Joe Kerna, Rose Canyon, and Ben Smith, Electronics, tip off with Dick Fenton and Dale Sigman of Rose Canyon five poised to snatch ball.

Sports & Recreation

Aeromodelers Groom Aircraft For Annual Scale Free-Flight

One of the most popular events of the year for plane modelers, the annual free-flight scale contest, set for Feb. 10-11, is circled in red on Aeromodelers' calendars.

Anticipating one of the largest turnouts yet, contest directors are inviting all General Dynamics modelers in the San Diego area, as well as members of the San Diego Orbiteers, to enter their prize craft.

All entries will be judged in a combined senior-junior class on Saturday night (Feb. 10) at CRA Clubhouse, Pacific Highway, 7 to 10 p.m.

"Bring all your planes," said Don Larsen, Aeromodelers' president, "as there is no limit on number of entries by any one person."

Prizes will be given for first, second, third places and for the model taking total high points for all planes entered, as sweepstakes winner. Awards will be given also for best World War I airplane, best World War II fighter, best low-wing aircraft, best jet, top entry by a woman.

Rolland Dexter of General Atomic, contest director, will be joined in the judging by William Simpson, Helix High instructor, and Nat Antonioli (Dept. 6).

Walt Mooney, long-time modeler (also Dept. 6), is assistant contest director.

Planes entered in the scale contest will have a chance to prove their flying prowess the next morning (Feb. 11) from 8 a.m. to 1 p.m. at Hourglass Field flying site, two miles north of Miramar NAS on Highway 395.

ARA-CRA Gun Club Plans Rifle Shoot

The joint ARA-CRA Gun Club will feature a small bore rifle shoot as well as its usual monthly trap and skeet shoot at the Gillespie Field range at 9:30 a.m., Feb. 4.

Ezra Johnson, ARA commissioner, has announced plans to maintain records of .22 firing and classify shooters with a view to encouraging competition within the club.

At a January event, top scorers were H. Schnaubelt, R. Harrington, G. Cherry, D. Farrelly, W. Prentiss and R. Andrews.

Additional information on the club and its activities is available from Johnson, Astro ext. 2283 or from CRA Commissioner Jack Swank, ext. 1161, Plant 1.



GOING ALOFT—Jack Finn of GD/Electronics, launches A-1 towliner of Larry Peterson, in recent Aeromodelers' contest. In center of photo can be seen 39-in. square fabric streamer required by American Model Association for accurate timing. It separates from model at launch.

Hoopsters From Rose Canyon Lead GD/Convair Shop League

Rose Canyon hoopsters were leading the field in GD/Convair shop league basketball play at the end of second week tilts.

Six teams went into action on Muni Gym courts Jan. 12 with Rose Canyon downing Space Science 27-21. Electronics won over Dept. 25, 37-32, the same night and 990 Jets snowed under Servo 48-24.

Rose Canyon ball team kept in the lead the next week by defeating Electronics, 36-30. Space Science five won over 990 Jets, 44-36; Dept. 25 beat Servo, 42-26.

Last week's games were to match Dept. 25 against 990 Jets; Space Science vs. Electronics; and Servo vs. Rose Canyon in Thursday and Friday night play.

This week's schedule will see Dept. 25 play Rose Canyon tomorrow night (Feb. 1) at 6:50 p.m. on Court 3. The next night (Feb. 2) Electronics will play 990 Jets at 6:50 p.m. and Space Science will tip off against Servo at 9 p.m., both on Court 2.

First round will be completed next week, and second half will end with March 16 games. First and second-half winners will meet in a one-game playoff March 23 for the championship.

Seven Golfers Collect Hams in CRA Tourney; Hines Low With 74

Seven top Convair golfers took home hams for leading their flights at the Jan. 6-7 CRA tournament at Fletcher Hills. Runners-up had their choice of jewelry.

Wayne Hines (Dept. 140) took the 0-16 flight with low gross score of 74. M. C. Val Dez (Dept. 3) came in next with 84. Tied for low net with 70s were Walter Rye (Dept. 120) and John Mellett (Dept. 15).

In the 17-33 flight, low gross was shot by Swede Ulsund (Dept. 140), 87; second low gross, Wayne Turner (Dept. 3), 89. Hugh Wilkerson (Dept. 180) had low net score of 67, followed by George Pilgrim (Dept. 48) with a 72.

In the 24 and over flight Jack Santone (Dept. 400) shot low gross, 94; Frenchy Desrosiers (Dept. 140) was runner-up with 96. Low net winner was John Hammer (Dept. 101) with a 67; John Wood (Dept. 14), second low net, 71.

New Hunter Safety Course Will Start

A new hunter safety course for General Dynamics youngsters in the San Diego area starts Feb. 17.

Arnold Schrock, instructor, will give three Saturday morning lectures on gun handling and safety at Gillespie Field Clubhouse, 9 a.m.

All young people of Astro, Convair, Electronics families are eligible to sign for the course which is required before anyone under 16 can apply for a California hunting license.

Registration is being taken by Schrock at his home phone, BR-7-4958.

RIDERS SCHEDULE VALENTINE DANCE

Members of the Convair Riding Club and their families will gather for a Valentine dance next Saturday (Feb. 3) at the CRA Clubhouse, Gillespie Field.

The fun will begin at 7:30 o'clock with CRA Commissioner C. L. Pogorel and V. V. Thomason, club president, on hand to welcome members and guests.

Master of ceremonies will be Luke Barbour, captain of the Color Guard, and music will be provided by the Color Guard combo of Turner Albright, Hap Manion, and Roy Wilson. Refreshments will be served.

Last Riding Club event was an afternoon get-together Jan. 14 at the Kenmore Stables. Junior members had the thrill of an old-fashioned hay ride with the grown-ups escorting on horseback. Refreshments rounded out the affair. During the business session committees for the coming year were named by Thomason.



CATCH OF CLAWS — Harry Ruscigno, Delta Divers commissioner, stretches out 12½-lb. lobster, largest of recent catch taken from waters off Cardiff. Bob Nicholas of Astro Divers removes mask and snorkel tube as he hoists his bag of lobsters aboard.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

★ ★ ★

AEROMODELERS — Annual free-flight scale contest, Feb. 10-11. Regular meetings first and third Thursdays, 7:30 p.m. Call Don Larsen, ext. 2289, for meeting place.

BASKETBALL — Plant league play under way Thursday and Friday evenings, Muni Gym, Balboa Park.

BRIDGE — Weekly sessions each Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Meeting Feb. 12, Photo Arts Bldg., Balboa Park, 7:30 p.m.

CHESS CLUB — Reorganization meeting next Wednesday (Feb. 7), CRA Clubhouse, Pacific Hwy., 7:30 p.m. Everyone welcome.

FENCING—Workouts and instruction each Friday night, 7-10 p.m., YWCA, Tenth and C Sts.

GARDEN CLUB — Meeting Feb. 14, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — Entries close Feb. 5 for CRA tourney at Coronado, Feb. 10-11. Call ext. 1705, Plant 1.

GUN CLUB—Small bore rifle shoot, monthly trap and skeet shoot Sunday (Feb. 4), Gillespie Field Range, 9:30 a.m.

HUNTER SAFETY — New course opens Feb. 17, 9 a.m., Gillespie Field Clubhouse. Call Arnold Shrock, BR-7-4958.

ICE SKATING—Skating sessions each Thursday, Iceland, 6055 Lake Murray Blvd., 6:30-8 p.m. Registrations open to Feb. 16 for Big Bear weekend, Feb. 23-25. Call ext. 1245.

MOVIES—Reduced price movies each Friday, Saturday, Sunday at Adams Theater, 3325 Adams Ave. Admission: adults, 50¢; children under 12 free if accompanied by adult.

PISTOL CLUB — Next shoot Feb. 11, 9 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (Feb. 1), 8 p.m., Harbor Drive headquarters.

RIDING CLUB — Valentine dance Saturday (Feb. 3) Gillespie Field Clubhouse, 7:30 p.m.

ROCKHOUNDS—Meeting Feb. 8, 7:30 p.m., Gillespie Field Clubhouse.

SPORTS CAR CLUB—Meeting Feb. 7, Convair executive dining room, 7:30 p.m.

SQUARE DANCING — Refresher course Thursdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

SWIMMING—Free swim night Saturday (Feb. 3), Mission Beach Plunge, 7-9 p.m. Tickets at employee services.

TENNIS — Entries open for novice tourney, Feb. 17-18, 24-25, Morley Field courts, Balboa Park. Sign before Feb. 12 with Pete Beyrer, ext. 1245, Plant 1.

Net Club Proposes Novice Tournament

GD/Astro and Convair tennis enthusiasts who have failed to reach the semi-finals of an ARA or CRA singles tournament during the past year are eligible to enter a novice tournament planned for next month.

Organized by ARA Tennis Club, the tournament will be played on Morley Field courts, Feb. 17, 18, 24 and 25. Prospective participants may enter by calling ARA Commissioner Ben Cendali, Sycamore ext. 58, before Feb. 12.

Registration of Convair and Electronics players can be made through Pete Beyrer, CRA office, ext. 1245, Plant 1.

No entry fees will be charged and tennis balls will be provided. Trophies will go to winners and runners-up in men's singles and doubles, women's singles, and men's consolation winner.

Flight Crews Practice 'Jumps' Via Ejection Trainer

Flight crews, inspectors, and maintenance people involved in the B-58 escape capsule program soon will be making familiarization "jumps" from three-feet up in a B-58 escape capsule.

"Ejections" will be made in GD/Fort Worth's new In-Plant Crew Escape Capsule Trainer, now operational in the nuclear manufacturing building.

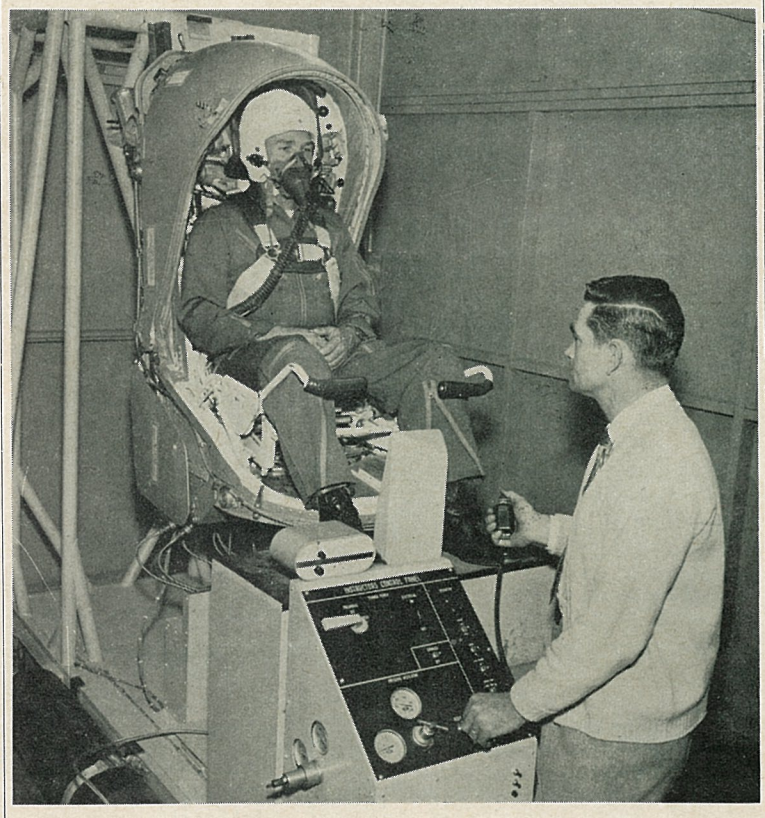
The trainer consists of an operational B-58 escape capsule suspended on a frame of tubular steel. The rig is raised about three feet above floor level to permit easy viewing.

"Since flight safety is involved in preparation and checkout of the B-58 escape capsule, we need this up-to-date device for training and certifying all personnel who'll work with it," said W. D. Halsey, assistant factory manager-flight control systems.

The trainer will also be used to check out new installations on the capsule. It is operated by an instructor, whose control panel is located immediately in front of the capsule. This permits visual contact with all capsule operations.

To begin the encapsulation process, the occupant pulls a pre-ejection handle at his side, effecting a series of pre-positioning movements; an inertial reel tightens the shoulder harness, pulling the occupant back into his seat; leg thrusters automatically pull knees up, restraining legs and feet well behind the capsule door.

"We then close the door manually to make certain it'll clear the occupant," said C. R. Hall, liaison man who will be one of the instructors, along with members of Dept. 3 (educational services).



GET SET!—Jim Lucas of GD/FW flight department gets set in new B-58 escape capsule ejection trainer, preparatory to practice "bail out."

Once clearance is given, the occupant squeezes the ejection trigger, beginning the simulated "bail out."

The capsule's telescoping doors slam down with tremendous force after the occupant is positioned. A whiff of air is circulated through the capsule to simulate pressurization.

Capsule and occupant are then moved up a foot or so to give the trainee a sensation of riding the rails up and into the slipstream. As he enters the "wind blast," the capsule's stabilization booms—which prevent pinwheeling in flight—flare back. Simultaneously, a drogue, or stabilizing parachute, pops out (theoretically in this instance).

Assuming the ejection was at high altitude, the trainer will simulate a free-fall to below 16,000 feet, where the main recovery chute opens and flotation booms extend from four corners of the capsule.

The occupant then "lands," and deplanes with "a pretty good feel for what it's like to actually eject" in a capsule designed to withstand tornadic supersonic slipstreams.

"A number of safety features are built into the trainer," said Hall.

A "dead man's switch" will cut off all trainer air pressure supply immediately and exhaust all pressure within the capsule at any point during the encapsulation process.

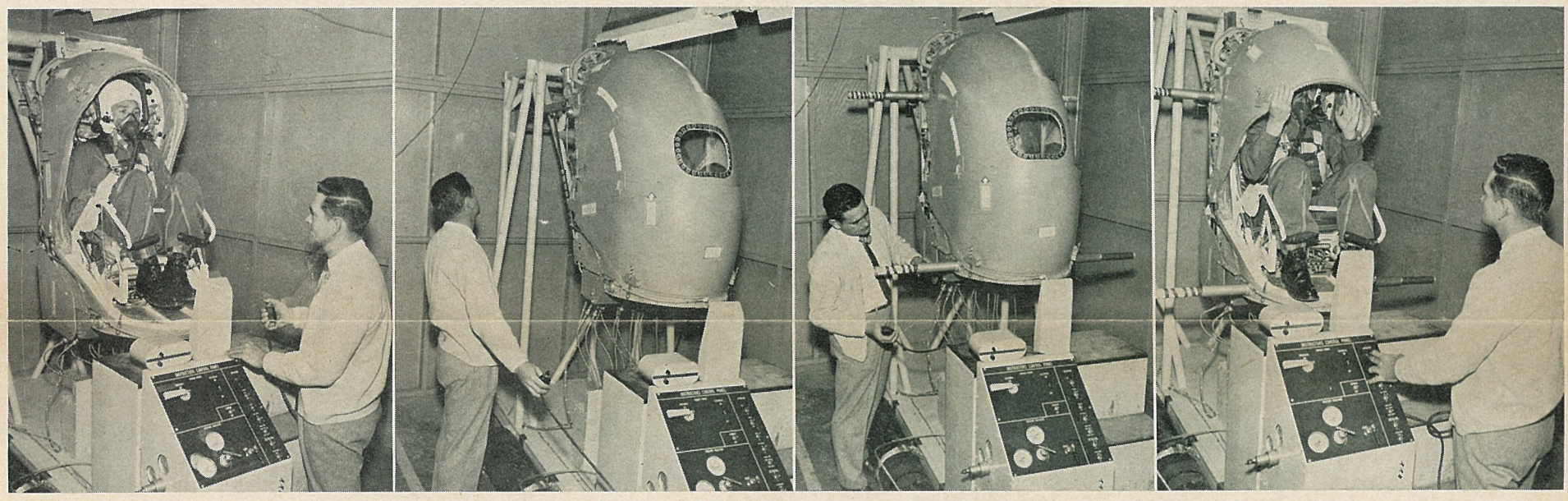
"Another is a solenoid valve in the door thruster which permits the doors to be checked manually for clearance before air pressure slams them down."

Another safety feature is the "open mike" within the capsule which enables the occupant to speak to the instructor at any time.

Detail parts, holding frame and other components, were made by Dept. 65. Assembly of subcomponents and installation was performed by Dept. 79.

A similar escape capsule Mobile Trainer Unit is being built for installation at Carswell AFB, where it will be used to train combat crewmen of 43rd Bomb Wing in ejection techniques.

Complete support indoctrination and certification of GD/Fort Worth personnel will be in areas of: environment; location function and operation; recognition and identification; theory of operation; inspection servicing and safety procedures; component removal and installation; and component adjustments and overhaul.



SEQUENCE—Instructor C. R. Hall of GD/FW is at controls of new B-58 capsule ejection trainer for B-58 crew men at Fort Worth. He spells out directions to Jim Lucas, then pushes button for action. Device pre-positions Lucas for ejection, reels tighten chest harness and restrainers pull legs up, feet back. Door then closes and capsule takes short ride up rails. At far right Lucas signals "okay" after "jump." Trainer simulates ejection just three feet above floor.

Space Materials Test Apparatus 'Freezes and Fries' at Same Time

Apparatus with capabilities unequaled in aerospace testing has passed first trials in General Dynamics laboratories.

The "thermal conductivity" equipment for testing insulation systems was designed and constructed by Dynamics research engineers. So far as is known, it is the only one of its kind in the country. Its task is to produce extremely high and low temperatures at the same time, subjecting various materials to the same conditions they would meet as outer skins for space vehicles.

A three-foot square mound of grey plastic foam, resembling a solid block of concrete, holds metering and guard tanks, crux of the entire system. Specimens of materials developed for space vehicle construction are attached at the bottom. There they are punished by cold temperatures as low as minus 320 degrees Fahrenheit on one side. At the same time they are roasted by hot blasts up to 1,800 degrees F. on the other.

Liquid nitrogen flowing through the inner aluminum metering tank, protected by layers of insulation and a guard tank, produces the cold which a space vehicle would endure from internal fuel tanks. A battery of heat lamps underneath the specimen produce the extremely high temperatures such as encountered speeding through the atmosphere at approximately Mach 7.5 speeds at 75,000 feet, and trajectory to or from orbit.

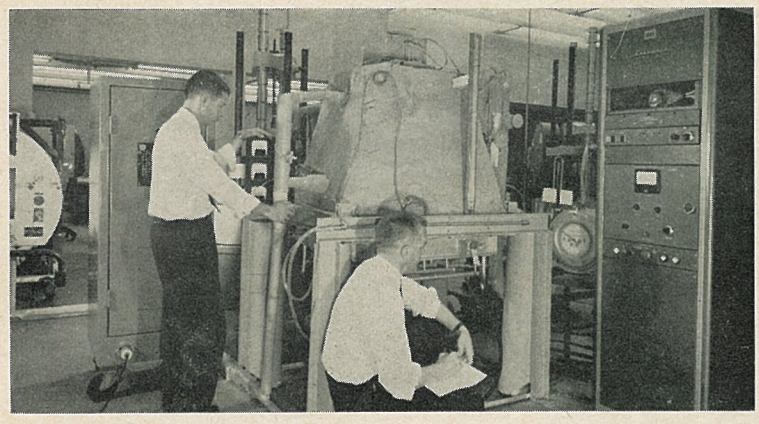
A large vacuum pump on the specimen can duplicate a range of pressures from those of the atmosphere around the earth to those 60-70 miles above the earth's surface.

John S. Steibel, now of GD/Astro Dept. 592-1, research engineer in charge of the project, said that possibility of such a test facility was conceived over a year ago by GD/Convair materials and processes laboratory engineers.

Ultra-light insulation systems, weighing not more than a pound per square foot, proposed for actual use in space vehicle construction, will be tested. Among such materials are microquartz fiber; a laminated material of alternating layers of gold or platinum and felt-like paper; and rigid board-like material made of pressed ceramic powders.

Future plans call for refinement of the testing apparatus for use of liquid hydrogen which can bring the temperature range down to minus 423 degrees F., and greater evacuation to reach pressures simulating altitudes of 100 miles and over.

Among those most involved in design of the apparatus and in the test program were Henry Jones of GD/Astro Dept. 592-1; W. D. Gosch, senior thermodynamics engineer, who was consulted on thermodynamics aspect of the structure. Ron Lang, predesign engineer, and Al Eulberg, project engineer for space plane studies, played a large part in initiating the project.



PUNISHMENT—John Steibel, at left, and Bill Gosch record temperatures, up to 1,800 degrees F. on one side, down to minus 320 degrees F. on other, inflicted by new testing apparatus on materials destined for use in space vehicles.



OH BOY!—Tasting fresh oranges off tree for first time are Swissair captains Hans Jaeckle, Willi Stierli, Niklaus Wiedmer, Robert Staubli, Hugo Muser. Swissair pilots sampled Southern California fruit during visit to GD/Convair pilot's home while in San Diego to pick up 990s.

Oranges Picked in Southern California Arrive Next Day in Zurich by Jet 990

A box of oranges picked in San Diego arrived in Zurich, Switzerland, less than 16 hours later aboard Swissair's first 990 to leave the General Dynamics/Convair plant this month.

Swissair's first 990 Coronado, international version, left the San Diego flight line Jan. 18 at 11:30 a.m. (PST). It touched down at New York four hours and 26 minutes later and stayed there four hours before taking off on its transatlantic flight. It arrived in Zurich six hours, 46 minutes later on a non-stop flight.

The Southern California oranges were provided by GD/Convair pilot Sherm Johnson. Captains of both the Jan. 18 and second 990 delivery flight the following Saturday were entertained at Johnson's Spring Valley home while in San Diego.

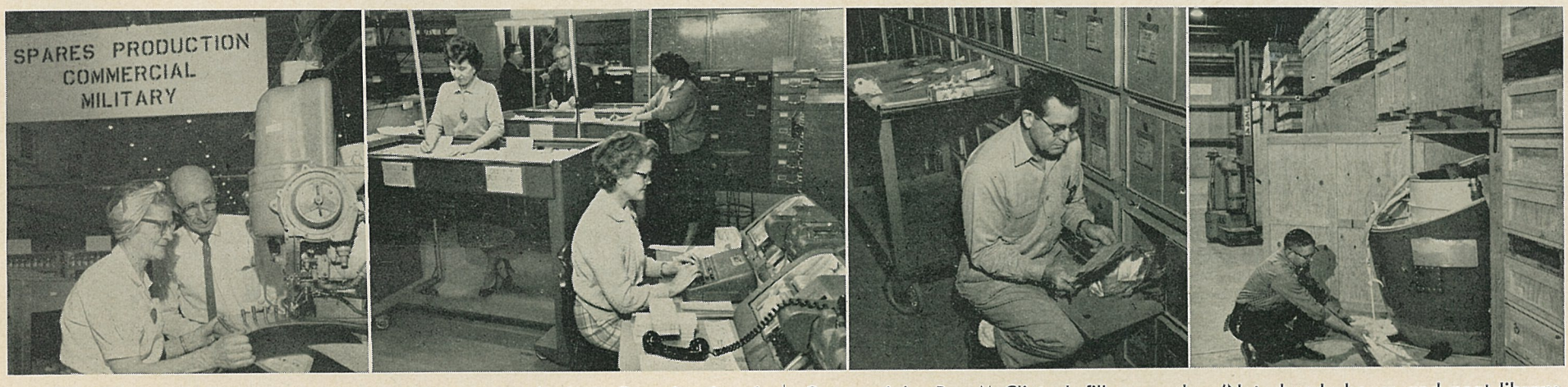
Swissair Captains Robert Staubli and Niklaus Wiedmer took out the first 990; ferrying the second were Captains Hugo Muser, Hans Jaeckle, Willi Stierli.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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SPEEDING SPARES—Even though no longer in production, Convair aircraft require continuing spares support. At left above, John Woodhead, Dept. 149 assistant foreman, watches Viola Sandsten rivet leading edge stub. Second from left is "nerve center" at Rose Canyon where orders come in by transceiver. Center, right: Rex McClintock fills an order. (Note handy boxes and neat library-like corridors.) At right J. B. Thompson slides out nose cowl assembly. Already crated, such assemblies are ready to ship in a jiffy. Commercial spares, alone, go to 126 operators all over world.

Cost Cut of $1½ Million Sought From CIPs and ESs During '62

Departments at General Dynamics/Convair will be asked to reduce their operating costs this year by over $1½ million through Employee Suggestions and Cost Improvement Proposals.

Cost reduction target has been set at $1,669,000.

R. M. Hatcher, GD/Convair director of industrial engineering, said that 1962 cost reduction dollar goals for each department now have been established.

Direct departments will be expected to cut expenses by $919,000. Goal for indirect departments is $750,000. Department targets, based on number of employees, range from $2,500 to $150,000 for engineering.

Cost reduction target thermometers are going up in factory areas this month to mark progress of the drive. Throughout the year each department will receive a monthly progress chart showing its current cost reduction standing.

Employees are urged to turn in all their money-saving ideas on either Employee Suggestion forms, for hourly personnel, or Cost Improvement Proposals, for flat-salaried people.

Employee Suggestion forms are available in ES boxes located throughout the plant. Cost Improvement Proposal forms may be obtained by calling ext. 1111, Plant 1.

Sykes and Ebel Famme Assts.; Titles Change

Two assistants to the president have been appointed and several changes in titles effected in a current realignment within the General Dynamics/Convair divisional organization, announced J. H. Famme, GD/Convair president.

W. K. Ebel is coming to GD/Convair from the Washington Corporate Office as assistant to Famme in a staff capacity. He has been staff executive for engineering in the Washington, D. C., office since fall of 1960.


W. K. Ebel

I. D. Sykes is named assistant to the president for planning and marketing.

Ebel will act as technical adviser to the chief engineer on all activities related to new business

(Continued on Page 2)

Jackson Appointed SATS Project Head

C. L. Jackson has been named SATS project manager at General Dynamics/Convair, according to an announcement by J. H. Famme, GD/Convair president.

Jackson will serve as the focal point for all managerial aspects of the program under which GD/Convair is designing portable landing matting for Marine Corps jet craft through a Navy contract.

He will report directly to R. A. Neale, vice president and general manager of the division.

Andrew Chitiea Appointed Controller As Burrows Goes to Corporate Staff

D. C. Burrows, controller of General Dynamics/Convair, has been assigned to the General Dynamics Corporate staff at San Diego.

Replacing D. C. Burrows in the position of controller for GD/Convair is Andrew J. Chitiea who comes to San Diego from the General Dynamics Corporation controller's staff at New York.


A. J. Chitiea

Before joining the Corporate staff he had served in managerial financial positions with GD/Electronics Division at Rochester, N. Y.

A native of Ohio, he received his Bachelor's Degree in Business Administration from Ohio State Universary. He became a Certified Public Accountant during the four years he served with Price Waterhouse and Co., New York accounting firm. He was later associated with Chrysler Corp. as controller-treasurer of Chrysler Australia Ltd. in Adelaide, Australia.

During World War II, he was a Master Sergeant in an infantry division intelligence section, serving in the Italian campaign.

Burrows joined Convair Fort Worth in 1942 as accounting supervisor. He was division treasurer and division controller before becoming assistant division manager in 1949. Three years later he transferred to the Guided Missile Division (which later became GD/Pomona) and in 1955 joined San Diego Division as controller, a position he has held since then.

Blood Volunteers To Donate Feb. 28

Blood donors at GD/Convair may sign now for the coming bloodmobile which will be in the plant for collection Feb. 28.

All departments at Plant 1, with the exception of engineering, experimental, and GD/Electronics, will be solicited. Cards went to supervisors the first of the week for signing volunteers.

The bloodmobile will be located in the military conference room, Bldg. 4, from 10 a.m. to 2 p.m.

Air Force Orders Field Modification Kits, Spare Parts

Air Force contracts which may eventually reach a many-million-dollar figure for F-102/106 field modification equipment were awarded General Dynamics/Convair this month.

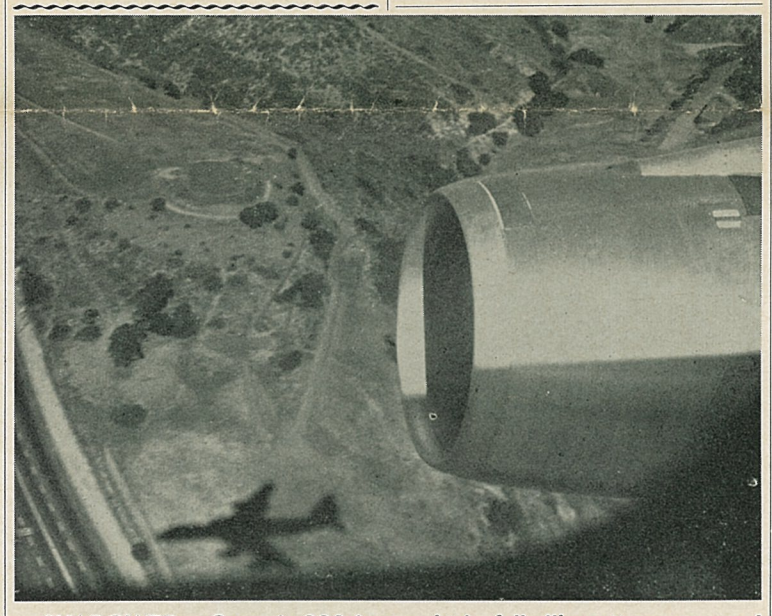
The F/TF-102A contract authorizes procurement of engineering, data, kits, and supporting spare parts for installation of a fixed infrared system in craft now assigned to Air Force squadrons. In addition, seven mobile training units are included.

Delivery schedule runs from May of this year through April, 1963.

The second contract calls for engineering, data, kits, and supporting spare parts for installation of the retractable infrared system. revised radar antenna, and anti-chaff capability in F-106A/B aircraft, as well as five training units.

Deliveries will begin this summer and run through spring of next year.

In addition to these contracts, many smaller miscellaneous contracts were received in January for items for Convair-built jet interceptors.



SHADOWED—Convair 990 is caught in full silhouette on ground below by photographer Pete Autio shooting from plane itself as it swung over San Diego on return from recent flight to Ontario.

Value Seminar Pays Off As Business Bids Cut

A substantial cut in figures of actual bids submitted for new subcontract business was a prime result of last month's value engineering seminar at General Dynamics/Convair.

Using the second value control seminar, Jan. 15-26, as a proving ground for assessment of new business proposals, two teams were able to pare original dollar estimates through value analysis.

"This shows what we can accomplish through value control team effort to put us right on the ground floor when we bid on new contracts," exclaimed H. P. Williams, manager of value control.

"We can arrive at realistic cost figures and put the division in a much better competitive position when we fully analyze proposals from every angle. We intend to use this method of picking the brains of experts from all functions involved as we direct our energies toward bringing new business into the division."

In addition, cost reductions

(Continued on Page 2)

Strong Effort Aims at Reduction Of GD/Convair Electricity Bill

Efforts were directed this week toward reducing GD/Convair's monthly electricity bill of $110,000.

R. E. Bechtol, chief of facilities engineering, urged attention to shutting off unneeded lights at shift end, using only those lights necessary to accomplish an overtime or weekend task, and care that lighting in non-productive areas is kept to a minimum.

"Industry experience indicates it is not economical to turn off lights for such brief intervals as rest periods or lunch hours," Bechtol explained. "It is the long periods of time in leaving unnecessary lights burning that we wish to eliminate."

Bechtol advised good judgment, however, in determining sufficient lighting where needed to prevent a safety hazard. Lighting problems may be referred to facilities engineering, ext. 1640.

★ ★ ★

Speedy Service Marks Convair Spares Support

General Dynamics/Convair will ship millions of dollars worth of spare parts during 1962 to both military and commercial customers.

John Doig, manager of service parts, explained the support is for more than 1,000 two-engine aircraft in service with commercial customers as well as the military, for the fleets of F-102s and F-106s, the 880 jets and oncoming 990s.

For commercial two-engine aircraft alone (240s, 340s, 440s), GD/Convair has 126 owners to service, many in distant parts of the globe.

Military spares are stocked at the Air Force's San Antonio Air Materiel Area, which places orders to replenish inventories as needed. However, for commercial customers, GD/Convair stocks "on the shelf" spares at Rose Canyon Warehouse.

With years of experience to build upon, service parts experts know what to expect in demand for various parts and stock accordingly.

"In most cases, the part goes out the same day we receive a request," Doig reported. "This applies to weekends, too, round the clock. Our expediters are con-

(Continued on Page 2)

Log Book Entries



SILVER ANNIVERSARY—These three GD/Convair veterans last month celebrated completion of twenty-five years service. From left, H. L. Laird, Dept. 48-60; Edgar Caldwell, Dept. 48-09; J. D. Powers, Dept. 31.

Retirements

CONVAIR

BELSH—Stanley E., Dept. 401. Seniority date Nov. 15, 1950, retirement effective Jan. 31, 1962.

BROWN—Lawrence L., Dept. 400-6. Seniority date Nov. 11, 1946, retirement effective Jan. 31, 1962.

BUSH—Mabel L., Dept. 215. Seniority date July 2, 1951, retirement effective Jan. 31, 1962.

CUNYUS—Walter H., Dept. 48-41. Seniority date July 5, 1950, retirement effective Jan. 31, 1962.

DELAUDE—Oscar A., Dept. 14-7. Seniority date June 3, 1952, retirement effective Jan. 31, 1962.

DIAZ—Pablo C., Dept. 25-1. Seniority date Sept. 24, 1952, retirement effective Jan. 31, 1962.

EDELMAIER—Karl F., Dept. 91. Seniority date Sept. 24, 1940, retirement effective Jan. 31, 1962.

HARDWICK—Bennie F., Dept. 149. Seniority date Jan. 8, 1951, retirement effective Jan. 31, 1962.

HENEHAN—Thomas P., Dept. 28-1. Seniority date July 7, 1952, retirement effective Jan. 31, 1962.

HOFFMAN—Clyde F., Dept. 21-3. Seniority date Jan. 19, 1951, retirement effective Jan. 31, 1962.

JACKSON—Nettie C., Dept. 116. Seniority date March 2, 1956, retirement effective Feb. 2, 1962.

JORGESEN—Anthony H., Dept. 31. Seniority date Dec. 5, 1947, retirement effective Jan. 31, 1962.

KARPINSKY—Nicholas C., Dept. 48-41. Seniority date Dec. 12, 1949, retirement effective Jan. 31, 1962.

MEYER—Claude V., Dept. 21-1. Seniority date Dec. 9, 1946, retirement effective Jan. 31, 1962.

MICKLE—Charles C., Dept. 34-2. Seniority date Sept. 16, 1953, retirement effective Jan. 31, 1962.

MORGAN—Arthur L., Dept. 25. Seniority date Nov. 3, 1953, retirement effective Jan. 31, 1962.

NASLAND—Ralph C., Dept. 140. Seniority date Oct. 24, 1950, retirement effective Jan. 31, 1962.

NEWMAN—Louis, Dept. 400-1. Seniority date Nov. 6, 1941, retirement effective Jan. 31, 1962.

PECK—Charles A., Dept. 215. Seniority date Dec. 29, 1947, retirement effective Jan. 31, 1962.

PETRILAK—Joseph F., Dept. 180. Seniority date March 8, 1948, retirement effective Jan. 31, 1962.

POPADOWSKI—Francis J., Dept. 230. Seniority date Aug. 28, 1929, retirement effective Jan. 31, 1962.

RAYMOND—Leo J., Dept. 31. Seniority date July 10, 1950, retirement effective Jan. 31, 1962.

REYNOLDS — Onesta O., Dept. 138, Seniority date Dec. 6, 1951, retirement effective Jan. 31, 1962.

ROUGHCORE—William L., Dept. 401-5. Seniority date June 4, 1951, retirement effective Jan. 31, 1962.

SCHADEL—Mollie A., Dept. 44-5. Seniority date March 22, 1951, retirement effective Jan. 31, 1962.

SCHOON—Siert S., Dept. 215. Seniority date Nov. 20, 1953, retirement effective Jan. 31, 1962.

SHIVELY—Perry L., Dept. 31. Seniority date Dec. 14, 1951, retirement effective Jan. 31, 1962.

SILLS—Harry, Dept. 134. Seniority date Nov. 10, 1950, retirement effective Jan. 31, 1962.

TCHEMESSOFF—Serge S., Dept. 63-1. Seniority date May 18, 1944, retirement effective Jan. 31, 1962.

YOUNG—Edmund B., Dept. 48-43. Seniority date Feb. 18, 1947, retirement effective Jan. 31, 1962.

GD/ELECTRONICS

LINDSTROM—Sylvia F., Dept. 6. Seniority date Jan. 30, 1951, retirement effective Jan. 31, 1962.

Births

CONVAIR

DUPLAT—Daughter, Xochilt Alejandro, 8 lbs., 4 oz., born Jan. 13 to Mr. and Mrs. Alejandro Duplat, Dept. 128.

Lost & Found

Will the lady who found the yellow gold Benrus Citation watch near Overpass 2, Jan. 30, please call Mrs. Tommie Hasting (Dept. 133), at HO-3-4854.

Service Emblems

CONVAIR

Service emblems due during the period Feb. 1 through Feb. 15.

Thirty-year: Dept. 6-300, B. O. Isham.

Twenty-five-year: Dept. 6-800, H. R. Kennedy; Dept. 20-0, Vern Sharp.

Twenty-year: Dept. 1-31, J. L. Budros; Dept. 6-7, K. I. Arnston; Dept. 12-0, L. A. Williams; Dept. 14-8, H. C. Porter; Dept. 21-2, Winfrey McPhatter; Dept. 31, L. C. Foust, F. O. Peterson; Dept. 48, D. E. Bedgood, W. F. Phelan.

Dept. 116, James Keenan; Dept. 140, J. O. Sandage; Dept. 146, T. R. Blake; Dept. 160, Gilbert Moreno, R. R. Robinson; Dept. 171, P. K. Yenawine; Dept. 192, R. J. Gregorich, W. M. Hussey, Frances D. McKay; Dept. 401-5, J. W. Shivers.

Fifteen-year: Dept. 1-71, R. J. Lutz; Dept. 6, W. D. Isbell, Doraine B. Offerman, C. B. Ohman; Dept. 31, J. E. Powers, G. C. Weatherbie; Dept. 48, W. T. Bennett, J. P. Rogers; Dept. 101, C. R. Thompson; Dept. 117, Linus Harter; Dept. 133, Eddie Ruiz; Dept. 148, L. D. Brand, Manuel Romero; Dept. 160, J. D. Hartman; Dept. 205, E. M. Sneigoski; Dept. 218, Natividad Lopez; Dept. 400-3, L. D. Claussen; Dept. 401, R. E. Clark, E. C. Wagner.

Ten-year: Dept. 3-1, C. G. Parker; Dept. 6, J. M. Ryan; Dept. 14, G. A. Alkire, Pauline G. Critchett, Emiterio Garcia, Thelma P. Noster; Dept. 16, Dorothy E. Hobson, D. B. Kelley; Dept. 21-1, Leo Watkins, Dept. 23-3, R. J. Haney; Dept. 25-1, Rudolph Valentini; Dept. 31, R. A. Thompson; Dept. 34-2, L. L. Clayton.

Dept. 44-3, J. G. Handel; Dept. 48, L. H. Carroll, A. T. Kolas, T. C. Leach, Betty R. Nelson, Martha A. Sabados, Nellie S. Squire; Dept. 91-0, J. H. Hinton, G. D. Young; Dept. 95-3, Geraldine B. Haughawout; Dept. 97-6, Esther H. Nilsen.

Dept. 120, Frances G. Hamilton; Dept. 129, Antonette R. Hebel, Aurora M. Smyth, Isabel G. Verduzco; Dept. 138, Margaret N. Ralph; Dept. 139, C. A. Hornburg; Dept. 140, Lena M. L. Culmone, B. G. Delso, J. P. Kircher; Dept. 142, Antonio Alvidres, Helen K. Smith; Dept. 146, E. N. Fontnette, Omega S. Larabee, Adolph Rodriguez; Dept. 148, J. W. Fuller, J. J. Gallagher, F. H. Hurley, Pedro Saiz Jr., L. T. Symonds.

Dept. 160, W. L. Daniels; Dept. 171, Sebastian Bustamante, V. C. Isaak; Dept. 180, R. A. Moody, R. W. Trudo, M. B. Watling; Dept. 192, M. R. Borchart, Grace T. Cline, M. L. Constantz, R. H. Grant, Leone A. Jamieson.

Dept. 216, A. C. Sampson; Dept. 223, E. L. Kumke; Dept. 292-1, D. W. Williams: Dept. 401-7, Nellie H. Diebold, Norene O. Dunn, J. J. Williams.

HOLLOMAN AFB

Twenty-year: Dept. 313-6, Claud F. Deere.

GD/ELECTRONICS

Twenty-year: Dept. 5, John Draney, H. H. Horman; Dept. 8, W. W. Ross.

Ten-year: Dept. 5, Florence B. Berg, J. J. Monsegur; Dept. 6, Helen S. Cupp, Alma V. Light, Ardise L. Rawlins; Dept. 8, N. F. Arb.

Personals

CONVAIR

We wish to thank Dept. 14-4 and Dept. 400-6, for the flowers, cards and many kindnesses shown during our recent bereavement.

Mrs. James Tucker and children, Dept. 14-4.

* * *

The comforting expressions of sympathy from Convair friends were deeply appreciated and will always be gratefully remembered.

Mrs. Mount Barnett.

Promotions

CONVAIR

Promotions to or within supervision effective Jan. 29.

Dept. 4-0, Material: To procurement manager, G. W. Zahrte.

Dept. 400-2, Tooling: To tool project supervisor, J. E. Miller.

GD/ELECTRONICS

Dept. 5, Engineering: To design group engineer, H. H. Horman. To asst. design group engineer, P. E. McCourt.

General Dynamics NEWS

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Convair Editorial Offices, Bldg. 32, Plant 1, GD/Convair, Mail Zone 1-320, P.O. Box 1950, San Diego 12, Calif. Telephone CYpress 6-6611, ext. 1071. Staff: Grayce Fath, Helen Pemberton.

GD/Electronics (San Diego) news contacts: Info. Tech., Helen Wood, CY-8-8331, ext. 15; Milit. Prod., Betty Freeby, CY-8-4641, ext. 1377.

Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: James Combs Jr., editor; Carol Colbert. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

Affiliated editions of General Dynamics NEWS are published in Rochester, N. Y., covering GD/Electronics and GD/Telecommunication, editorial offices, 100 Carlson Road, HUbbard 2-2200, ext. 2555, Gordon Morison, editor.

Sykes and Ebel Famme Assts.

(Continued from Page 1)

and assist Famme in personal contacts within the aerospace industry as the division seeks new subcontract business.

He has had an extensive career in top engineering posts. He served as vice president-engineering and director of Glenn L. Martin Co., director of engineering, Airplane Division of Curtiss-Wright Corp.; and vice president-engineering for Canadair Limited from 1949-1960.

Sykes, former program planning administrator at General Dynamics/Pomona, transferred to GD/Convair last spring as manager of long range planning. In his new capacity he will be responsible for new business planning and marketing operations for the division. Reporting to him is H. C. Chambers, director of marketing.

Principal changes in title are: J. J. Alkazin, former director of contracts and planning, now director of administration; and R. M. Hatcher, formerly manager operations planning, new director of industrial engineering.

"We are streamlining our organization to achieve our objectives in getting new business," explained Famme. "Changes have been made to provide centralized administration for more effective communication and a centralized operations nerve center."

Highlights of the reorganization place all facilities and planning functions and estimating of new business directly under responsibility of R. A. Neale, GD/Convair vice president and general manager.

Other significant changes see the service publications department incorporated in the communication department under R. K. Gottschall, director, and centralization of all the division's industrial engineering functions under Hatcher.

H. R. Kennedy is manager of technical publications; H. L. Montgomery, manager of graphic services, both reporting to Gottschall.

Under Hatcher are four managers: W. E. Wise, manager resources engineering; W. J. Dewey, manager program control; R. C. Hartwig, manager systems and procedures; and H. B. Rogers, manager of estimating.

Another recent appointment saw John Doig named manager of service parts.

Speedy Service For Convair Spares

(Continued from Page 1)

continually on call."

Frank J. Jaehm, spares assistant foreman at Rose Canyon, confirmed the speed factor.

"On occasion we have moved a part in less than an hour, including driving it to the airport."

At Rose Canyon the operation is geared for speed. Pre-inspected and pre-packaged parts are kept in rows of pasteboard boxes. Corridors are numbered and locating a part is as simple as finding a volume in a library. Many parts are packaged in transparent plastic, for quick identification as well as protection. Larger assemblies are already crated, needing only a quick inspection and metal banding before shipping.

Engineers to Appear On Metals Program

Two General Dynamics engineers will appear on the program at the American Society for Metals Golden Gate Conference in San Francisco Feb. 15-18.

W. D. Buntin, GD/Fort Worth senior structures engineer, will speak on "Some materials and structures problems associated with designing B-58 type structure for supersonic cruise capability."

"High energy rate forming of space age materials" will be subject of a talk by Warren G. Mang, Advanced Products Division, San Diego.



SEMINAR NO. 2—Above are GD/Convair and GD/Electronics supervision at conclusion of second value control seminar. Large group at top includes most of 39 GD/Convair men completing Jan. 15-26 seminar; lower shot shows GD/Electronics personnel with William Lawrence, general manager, seated in center.

Value Seminar Pays Off As Business Bids Cut

(Continued from Page 1)

were made in the entire 11 projects surveyed, including three from General Dynamics/Electronics. And, in less than a week, findings of some teams were going into effect. Now, suggestions of value control teams are being implemented for at least six of the projects surveyed.

Fourteen GD/Electronics men made up three teams under C. W. Christie, project leader. They value analyzed actual components now in production. In one case, a GD/Convair seminar member exchanged places with a GD/Electronics man to give two teams advantage of their special knowledge.

The 39 GD/Convair men completing the two-week seminar made a total of 79 who have participated in the current value control program under Williams' direction.

This week a third seminar began for 40 more supervisors from both GD/Convair and GD/Electronics.

"We will schedule one seminar a month throughout the year, except for the vacation period of July and August," said Williams.

"We want every person within the company to understand the principles of cost versus value and keep them uppermost in his mind at all times."

During the same time, E. D. Heller, GD/Pomona value control coordinator, was indoctrinating 45 GD/Convair and 15 GD/Electronics executives in a special capsule session.

To date, 145 GD/Convair and 31 GD/Electronics administrators have had the initial three-hour indoctrination phase; 115 GD/Convair and 16 GD/Electronics men have gone into the next phase of project consideration. Third, and final, phase is audition of seminar reports.

Following is roster of seminar No. 2, including projects, team members, departments, project leaders.

Team No. 1—De-Icer Controller for Empennage Leading Edge: C. M. Bradley (116), E. DeMers (GD/E 5-411), D. L. Hobart (6), N. Kosmas (34-5), C. Wallman (48). Project leader, S. W. Swenson.

Team No. 2—New Business Proposal: T. W. Brotherton (48-09), F. F. Krohn (6), M. E. Kruger (45-0), G. L. Peyton (6), R. B. Thompson (31). Project leader, G. E. Nuss.

Team No. 3—Expendable Plaster Mandrels: V. M. Burns (34-5), E. R. Fink (25-1), H. E. Kobrich (401-4), H. H. Rosenbaum (6), A. J. Woods (400-1). Project leader, L. W. Stamper.

Team No. 4—Air Supply System (Ducts): H. A. Billings (35-1), R. L. Black (6), L. Hawson (16-0), V. A. Petricola (12-0), J. L. Williamson (401-5). Project leader, J. E. Blain.

Team No. 5—Construction and Installation of Fuselage Wing Fillet: J. J. Beckman (6), A. L. Hendricks (95), E. B. Kellogg (5), S. E. Smith (400-3). Project leader, Swenson.

Team No. 6—New Business Proposal: J. E. Burgeson (6), J. W. Grimes (34-2), S. Petcher (48-01) H. G. Rote (100), J. S. Williams (400-1). Project leader, Nuss.

Team No. 7—C-141 Vertical Ribs; A. L. Baber (13), E. T. Hansard (6), T. N. Houk (34-1), J. J. Jodka (91), F. N. Shepard (400-2). Project leader, Blain.

Team No. 8—Fabrication of Vortex Generator: D. O. Gerde (400-2), D. G. Moody (6), O. N. Tallerday (45), E. H. Wesp (401), W. W. Whittier (95). Project leader, Stamper.

General Dynamics/Electronics teams, all directed by C. W. Christie as project leader:

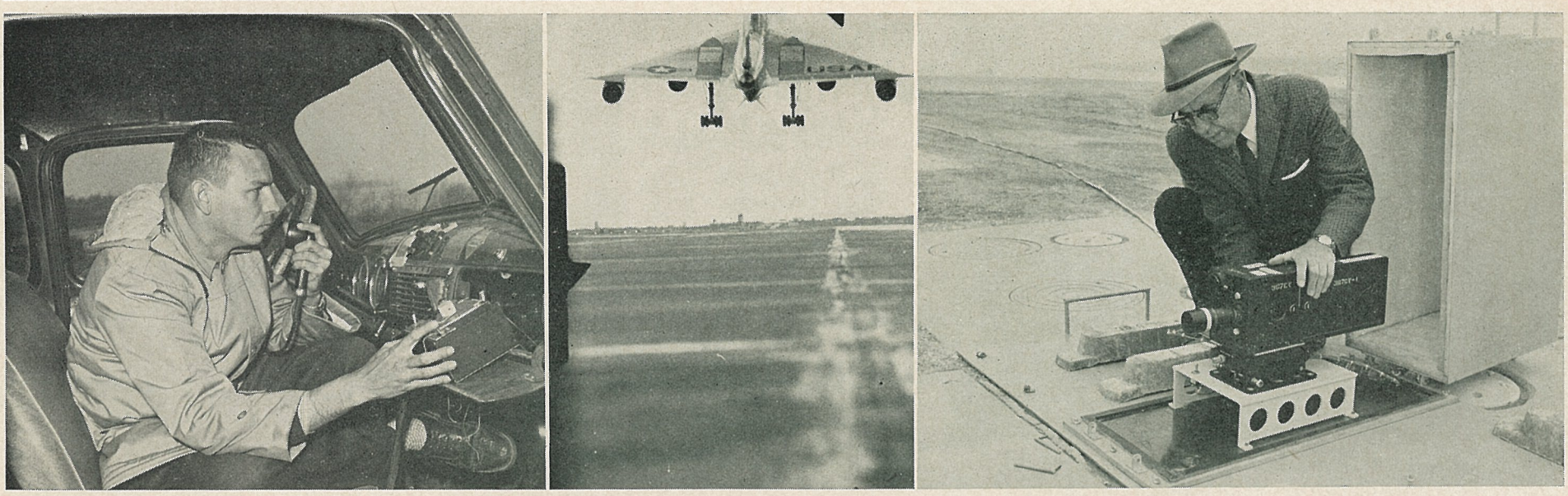
Team No. 9—Pre-Amplifier and Clamp: J. Kriensky (6434), L. J. Moran (6-5107), L. L. O'Neal (10), M. M. Reeder (5-414), B. M. Skrobiza (3-5240).

Team No. 10—Clearance Set Assembly: J. P. Debus (5153), F. P. Devine (5412), C. H. Flint (6420), G. D. Patrick (8-5120), R. L. Williams (GD/Convair 215).

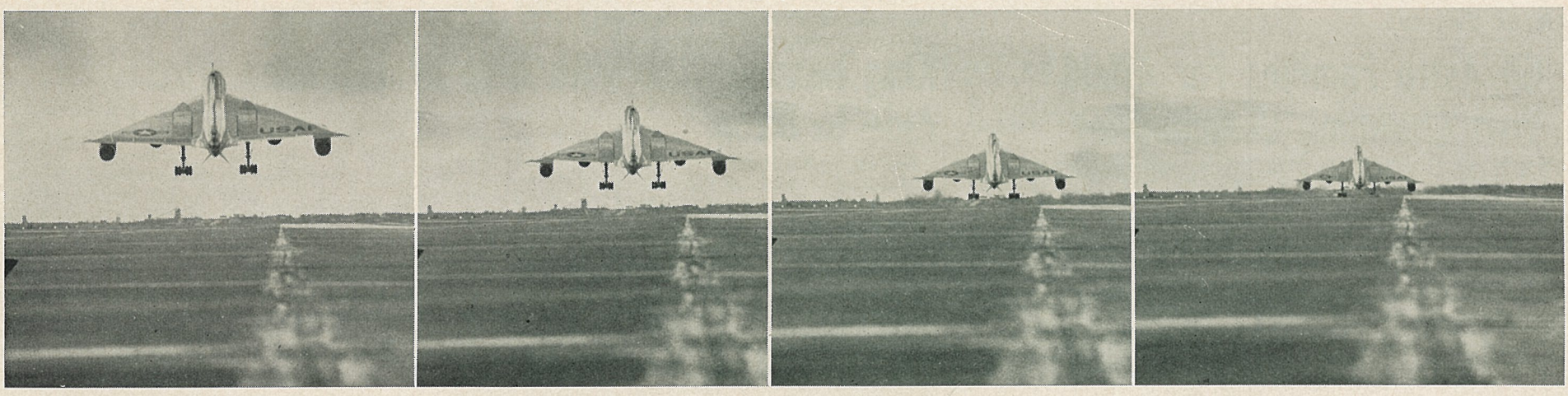
Team No. 11—Pre-Amplifier Assembly: R. J. Cary Jr. (5401), L. F. Kruse (6), R. C. Mansell (9-4210), W. E. Sargent (9-6107), J. F. Serafin (5-5416).



DRIVE LEADERS—"Most valuable player" awards went to (from left) C. E. Klein GD/Electronics Information Technology manager of reliability and quality control; R. B. Craig, GD manager of personnel services; D. H. Salyers, GD/E Info. Tech. manager of program administration; and Don Glasser, Astronautics, loan executive from General Dynamics to United Fund Drive. Awards honored volunteer efforts in UF campaign.



REMOTE "SHOOTING"—At right F. E. Carlile, GD/Fort Worth photo lab assistant supervisor, readies precision 35 mm camera on runway preparatory to recording B-58 landing sequence. At left is Sam White, technician, switching camera into action from mobile control center off runway.



COMING DOWN—Random frames taken from strip (camera shoots 20 frames a second) show B-58 settling in familiar nose-up attitude on Carswell AFB runway. About 300 landings will be photographed for analysis of crosswind effect at Bunker and Carswell AFBs before end of March.

New Explosive Bonding Possibilities Explored

A problem constantly plaguing the space-age engineer—how to join dissimilar metals (titanium to aluminum, etc.)—may be solved through studies conducted recently at General Dynamics/Astronautics.

"We've had considerable success with explosive bonding, recently adding several new 'twists' to techniques using this method," said W. C. Wilson of GD/Astro's applied manufacturing research (Dept. 290-2).

For lap joint (face to face) bonding, the explosive method involves setting a gap between surfaces to be joined, then detonating an explosive charge against one. This brings them together with an angular (shearing) motion, while intense heat results from compression of air within the gap.

The combined heat and shearing impact causes surfaces to "ripple" in a phenomenon known as "surface jetting." A welded (fused) or joined (through mechanical or frictional adhesion) bond results.

Researchers previously believed that an angle of one to 15 degrees was required between surfaces to be joined to obtain the shearing impact.

Wilson simplified this, simply by starting detonation of the explosive charge from the side, rather than at its center. Thus, the detonation wave-front moves the surfaces in the desired shearing motion, and no angle spacing is necessary.

Tests to date have effectively bonded stainless steel to aluminum; aluminum to titanium; and aluminum to itself.

In the aluminum to aluminum bond, pronounced surface jetting resulted and the two samples were actually fused together. Tests of tensile strength indicate the explosively bonded joint to be stronger than the original material.

"Explosive bonding requires less critical surface preparation than conventional welding," Wilson explained. "For simple joints, no special equipment is required.

"Explosive joining can solve a number of design problems," said Wilson. "For units requiring properties of different metals in adjacent areas, designers can now specify exactly the right metal for the right place, and join segments explosively."

This formerly meant using a bulky flange; compromise by specifying easily joined materials; or a "last resort" sacrifice of strength or light weight by using one material for the entire unit.

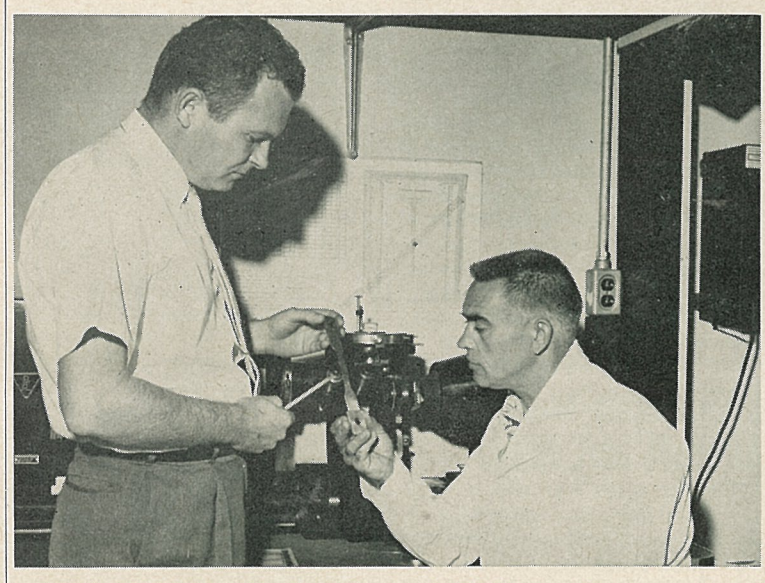
Working with Wilson on the studies is project engineer W. K. Beyer, Dept. 290-2.

Save Material — Don't Throw Your Job Away!

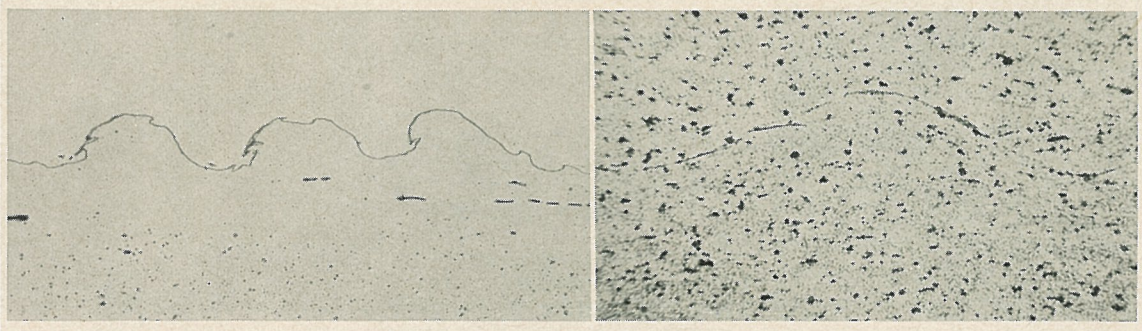
DYNAMIC AMERICA WINS SCHOOL PRAISE

Letters of praise and appreciation came from every high school in the San Diego area this month acknowledging complimentary copies of Dynamic America.

The copies were sent out through GD/Convair employee services. Typical of the letters was one from Norman W. Houser, principal of Mission Bay High. "I have personally gone through this book from cover to cover and without question it is the most impressive book of its kind that I have ever seen. The pictures, the color, the descriptive material has obviously been gathered and presented with great care and skill. We at Mission Bay High are delighted to have this book in our reference library for student use."



NEW METHOD—W. C. Wilson of GD/Astro shows sample of explosively bonded metals to F. F. Jorrey, metallographic lab technician.



A LOOK "INSIDE"—Magnified many, many times, these are photos of cross sections of material that has been joined explosively. At left is bond between K-Monel (white, upper part) and stainless steel. Photo was enlarged by 500 times. At right is bond of two samples of aluminum. Almost complete fusion was achieved. Only a faint line indicates point of joining.

Camera Stationed on Runway Records Crosswind Landings

Precision cameras are recording B-58 landings in a survey of crosswind effects on the Hustler's landing gears.

"We're going to photograph about 300 landings at both Bunker and Carswell before March 31 in an attempt to determine 'average conditions' on landing," said V. L. Salzman, senior flight test engineer assigned to the project.

"Rate at which the plane side slips and sinks—and the yaw or skid angle—will be recorded by the camera, while technicians will note such factors as temperature, wind velocity and direction on each landing."

Filming the landing sequence requires special 35 mm cameras, placed 15 inches above the ground at either end of the runway. Direction of landing determines which camera will be used.

"The camera is operated electrically by a technician in a control truck located near the runway," said F. E. Carlile, photo laboratory assistant supervisor in charge of this phase of the project.

"The technician maintains radio contact with the control tower, setting the camera in motion just as the Hustler wings over the end of the runway. Shooting at about 20 frames a second, the camera records the airplane's position and attitude until it touches down."

Actually, Carlile explained, the cameras are capable of filming as many as 80 still frames a second.

"By using the pre-marked reference points on each negative, we can then use a film viewer to determine the airplane's position relative to the runway, and other pertinent data," said Leonard Henry, senior flight test engineer who helped conceive the project.

A total of 10 to 15 negatives of the nearly 225 taken on the average B-58 landing are used in obtaining data.

Salzman explained that for the purpose of testing, a crosswind is one coming from any direction to the plane other than head-on or tail-on.

"Some wind has existed on virtually every landing we've shot so far," he said, "ranging from very mild to gusts of 20 miles an hour and above.

"Since we can film only daytime landings, and since we're trying to complete our survey by March 31, we're having to film landings at both bases, using tactical Hustlers," Salzman pointed out.

"With any break in the weather at all, I think we'll meet our deadline."

Ehricke to Lecture On Space Solutions

Krafft A. Ehricke, director of advanced studies at General Dynamics/Astronautics, will give one of the 16 lectures in the Cryogenic Technology course offered by the University of California Extension this spring.

Ehricke will speak in San Diego May 14; Fullerton May 15; Los Angeles May 16; Moffett Field May 17. His topic will cover aspects of deep space probes requiring cryogenic engineering solutions.

San Diego coordinator for the lecture series is James F. Watson of GD/Astronautics.

Jet 880s Contribute To New Delta Mark

Delta Air Lines continues in the record-setting business.

For the first time the airline topped the 10-million mark in total revenue passenger miles flown in one day. Including Delta's 34 scheduled Convair 880 flights, the number of passenger miles on Jan. 2 was 10,187,000, reported Joe Dennis, General Dynamics/Convair field service representative based at Atlanta, Ga.



MANY LITTLE PEOPLE—Mr. and Mrs. Phil Ayres and family visit Anton Pearson, wood carver, at his studio near Schilling AFB. Theresa, 9, Christine, 8, Linda, 6, Philip, 5, Edith, 3, and Elaine, 8 months, confront miniature men, Pearson's favorite subject.

Bit of Sweden

GD/Astro Families Far Afield Visit Charming Communities

SCHILLING AFB — About 15 miles from this Kansas base is the rural community of Lindsborg, predominantly Swedish and proud of it!

Among several GD/Astronautics families who now call Lindsborg "home" is that of Phil Ayres, GD/Astro security officer here.

He, his wife and six children enjoy the charm of the community where many "old country" customs and traditions remain part of daily life: "Valcommen" (welcome) signs on shop doors, and a multitude of European arts and crafts still practiced extensively.

One of Lindsborg's best known citizens is Anton Pearson, whose skill at wood carving has gained him world renown. As many other GD/Astro folk have done, the Ayres family called on him recently in his home-studio on Lindsborg's main street.

The artist welcomed his guests and displayed a number of the eight-inch-tall carved figures which are his "trademark." He has been carving them for more than 35 years, and no two are alike.

Pearson has unshakeable pride in Lindsborg. Chuckling, he told his new neighbors a locally popular story of the community's fame abroad.

"A Swedish man on his way for a visit here was astounded by New York's skyscrapers," Pearson winked. "Staring up at them he gasped, 'If this is only New York, what will Lindsborg be like?'"

Ayres and family have a ready answer for that.

"It's great," they agree.

IRE Chapter Elects Three Dynamics Men

General Dynamics men have been named to posts in the San Diego Chapter, Institute of Radio Engineers.

Chairman is Edmond W. Carlson, GD/Astronautics; vice chairman, David Proctor, GD/Electronics; and secretary-treasurer, A. Curtis Greely, GD/Convair.

Serving on the executive committee and as professional group officers are Eric Herz, George J. Mealey, Ernest R. Karcher, Bernard Lander and Charles E. Burgis, all of GD/Astro, and James H. Kluck, GD/Electronics.

National Security Course Offered

A correspondence course, "The Economics of National Security," again is being offered by the Industrial College of the Armed Forces, Fort Lesley J. McNair, Washington, D. C., to selected civilians.

Qualified persons may apply directly to the Commandant, attention Correspondence Course Division. A college education, or equivalent, is desirable. The course, which takes about a year to complete, is an extension of the residence course given to senior military officers and civilian executives of the government.



CAUGHT IN ACT—Little Virginia Harvey is surprised in midst of sudsing down by father, Howard Harvey, GD/Convair Dept. 6, who took top black and white honors with print at Camera Club quarterly judging.

Swissair 990 Busy Training

Swissair's second Convair 990 Coronado, which arrived in Switzerland Jan. 21, is winding up a three-week pilot training stretch at Arlanda, Sweden, this week.

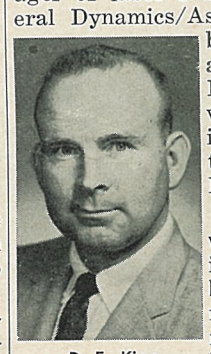
It went to Arlanda Jan. 27 to start crew training the next day, said Frank Laffoon, General Dynamics/Convair field service representative at Zurich.

In the first three days it had averaged 9 hours, 35 minutes a day in the air and made 79 landings. This averaged out one every 22 minutes.

Coincidentally, the same landing average (one in 22 min.) was chalked up during the entire training period with the Convair 880-M at Arlanda last summer. From Aug. 13 through Sept. 5 it flew a total of 282 hours, six minutes, and made 770 landings.

King Named Aide to Biron

Robert E. King, former manager of labor relations for General Dynamics/Astronautics, has been appointed assistant to R. H. Biron, senior vice president-industrial relations of General Dynamics.



R. E. King

King, who will specialize in corporate labor relations matters, is a member of the President's Missile Sites Labor Commission. He has been active in maintaining uninterrupted work at various Atlas off-site bases. Born in Mesa, Ariz., he was educated in Abilene, Tex., and holds a degree from San Diego State College. He joined Convair in 1941, spent a number of years in various factory posts, joining industrial relations in 1950. He was chief of industrial relations at Palmdale before joining Astronautics.

Managers' Seminar To Begin in March

M. S. Lachman, executive development administrator in GD/Convair educational services, is seminar leader for the 11th Seminar for Managers offered through the University of California Extension.

Lectures begin March 7 for ten weeks on Wednesdays, 4:30-8:30 p.m., El Cortez Hotel, San Diego.

Designed for men and women in business and government managerial positions, the seminar lectures deal with modern managerial principles and their relation to current problems. Recognized university authorities and businessmen conduct sessions.

Registration information is available from University Extension office, 1221 Fourth Ave., San Diego.

GD/Convair Men Teach Aircraft at College

Two General Dynamics/Convair men are conducting aircraft courses at San Diego City College this semester.

Don Maxion of customer service is instructing in jet aircraft systems. Course content covers cabin pressurization, aircraft electrical systems, jet aircraft fuel systems, thrust reversing and wing spoilers as used on jet airplanes.

J. B. Van Houten of production flight is teaching flight engineering. The course is designed to prepare students for the FAA flight engineers' written examination.

ASTRO MAN WEDS NEBRASKA GIRL

SCHILLING AFB—Ong, Neb., was scene of a wedding Jan. 13, when Johnny Powell, Dept. 539-2, married the former Shirley Mae Peterson of Shickley, Neb.



TESTING—C. E. Hoffman of Dept. 24-1, left, gets hearing test following recent ear operation. His hearing was normal over-all, "better than normal" in low frequencies. Medical technician is D. T. Maxwell.

GD/FW Man's Hearing Restored With Help of Tantalum Wire

A space-age metal—used sparingly as an alloy in the B-58 Hustler—has helped restore the hearing of C. E. Hoffman, GD/Fort Worth numerical control programmer.

An enlarged stapes in Hoffman's middle ear was recently removed by operation. In its place, a Fort Worth ear specialist placed a one-fifth-inch piece of tantalum wire, containing tissue taken from Hoffman's ear lobe. The wire was clamped on in one place and grafted to the "window" leading to the inner ear.

"I could hear perfectly, it seemed, almost immediately after the operation," said Hoffman, who was under local anesthetic.

"The operation took place in December, and I'll never forget the sheer enjoyment when I went home and heard—I mean really heard for the first time—my recording of 'The Messiah.'"

Another memorable event was his "first" organ concert. "This was quite an experience, because I had been unable to hear well in the lower sound frequencies, even with my hearing aid," he said.

Hoffman said that his hearing problem was congenital. A "slightly impaired" hearing forced him to abandon a planned musical career when he was 21. He eventually suffered about a 60 per cent loss of hearing and has worn an aid for the past 20 years.

The veteran GD/FW employee first read about such an operation—called stapes mobilization—some years ago in a national magazine.

Dynamics to Take Lead In Engineering Week

General Dynamics Corporation again will play a leading role for San Diego observances of National Engineering Week Feb. 18 through Feb. 24.

Six General Dynamics men are honorary directors of the San Diego Committee for National Engineering Week. Among these are Edward J. Williams, corporate senior vice president-manufacturing; J. R. Dempsey, GD/Astronautics president; and J. H. Famme, GD/Convair president. Also from GD/Astronautics are: Mort Rosenbaum, executive vice president; E. D. Bryant, vice president-operations; and K. J. Bossart, technical director.

J. L. Carr of GD/Astro is executive secretary, while E. M. Getzoff of Astro is California State co-chairman. Both serve on the executive committee.

Committee chairmen, all from Astro, include J. Sterrett (finance), T. S. Cope (news media), H. P. Clark (publications) and C. C. Campbell (speakers).

Many other General Dynamics men and women will participate in various ways during the week-long observance this year which stresses "Economic Growth Through Professional Engineering." Twenty-seven engineering and technical societies are sponsoring the affair.

Featured events include the Feb. 22 dedication of a new engineering building at San Diego State College; a "careers conference" for college students to be followed by a celebration dinner with panel speakers at the Hospitality House, Balboa Park, also on Feb. 22.

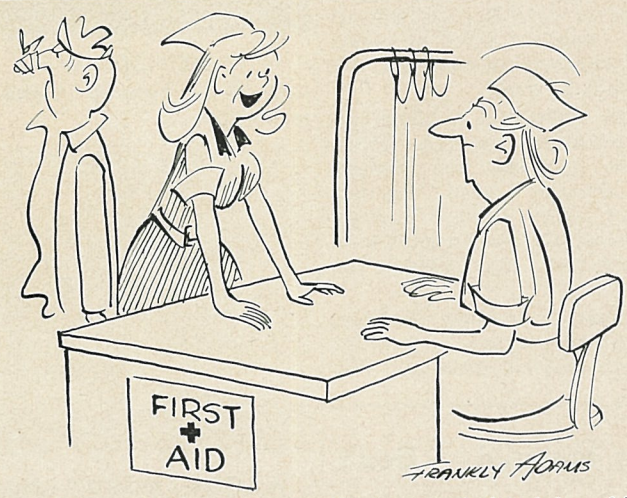
Climax of the affair will be a free exhibit from 10 a.m. to 9 p.m. Feb. 24 and from 1 to 9 p.m. Feb. 25 at the Electric Building, Balboa Park.

Creutz, Fullarton Fill Science Posts

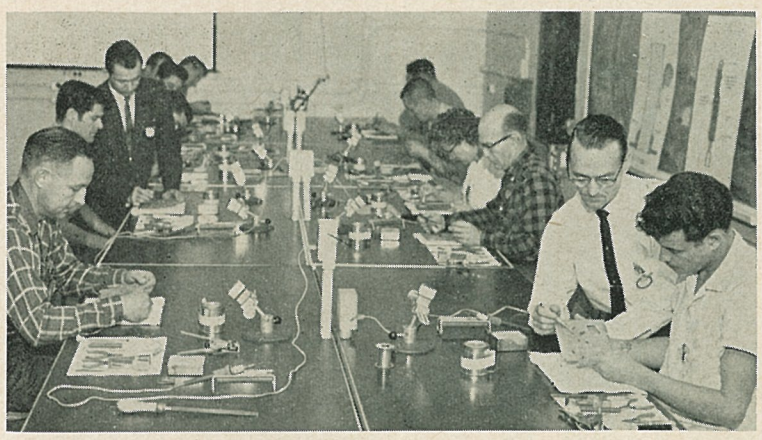
Two General Dynamics Corporation men have been named to key posts by the San Diego Hall of Science and Industry. Three others continue as directors.

Dr. Edward Creutz, vice president-research and development of General Atomic, was named first vice president of the group at a recent meeting. Alan M. Fullarton of GD/Astronautics was elected second vice president.

J. R. Dempsey, president; K. J. Bossart, technical director; and Werner Schmack, Dept. 547-4, all of Astro, continue as directors.



"I don't know if it can be classified as an industrial accident or not . . . He stuck his head into the computing machine, trying to see what happened to his pay check deductions . . ."



NEW METHODS—GD/Astro instructor Hershel Hornsby (standing right) gives C. A. Raley, Dept. 773, pointers in soldering circuit board, while quality assurance representative Rich Kolek (standing left) assists C. N. Paradis, Dept. 782. In left foreground is D. E. Couch, Dept. 783.

Job's 'Life or Death' Importance Emphasized in Reliability Class

"Your job is a matter of life or death," students in General Dynamics / Astronautics "Reliable Electrical Connections" class are told.

This is no idle classroom cliche, for these men and women are engaged in electronic assembly in missile and space vehicle programs where the quality of their workmanship may decide an astronaut's chances for survival.

Some 200 GD/Astro employees —electronic assemblers from production departments, electronic inspection and quality assurance personnel, and supervisors—have attended the special classes since they were begun last year.

Each class includes 40 hours of instruction, meeting eight hours a day, for five days. Both first and second shift classes are conducted at the main plant, and classes at Plant 2 and off-site bases are contemplated.

The course grew from a realization by production departments and the electronic process control section of quality assurance (Dept. 141-2) that assembly techniques acceptable for general application had become obsolete in the "space age."

Old methods of insuring electrical continuity in electronic circuits were confronted with new extremes in vibration and gravity loads.

At the request of J. E. Trader, chief of quality assurance, GD/Astro's educational services section of industrial relations (Dept. 130-3), set about planning a class to meet the challenge.

Hershel Hornsby (Dept. 130-3) and Rich Kolek (Dept. 141-2) completed a National Aeronautics and Space Administration (NASA) course in the subject and Hornsby stayed on to win NASA instructor certification.

He then drew up lesson plans for the GD/Astro course and now teaches the first shift session, while Kolek coordinates this class for quality assurance. Bob Grant (Dept. 130-3) and Jim Webb (Dept. 141-2) conduct second shift classes.

Students attend a series of illustrated lectures, and then receive practical experience in making basic solder connections, harnessing, tying and reworking soldered joints.

On completion, they demonstrate ability in making a variety of connections under the critical eyes of the instructor and quality assurance representative.

"Students—some with 15 to 20 years electronic assembly experience — learn to work to new standards of cleanliness and precision," Hornsby explained. "Qualification for GD / Astronautics' certification is rugged, but graduates are enthusiastic about their increased abilities."

As class graduates return to their jobs, inspectors have noted drops of up to 50 per cent in the number of units rejected because of faulty connections.

"Students completing the course will recertify every six months," Kolek added. "The familiarity of supervision, inspectors, assemblymen and technicians with the same set of high standards provides the combination of good workmanship with quality assurance necessary to produce a dependable product."



INSTANT WATER—Texas "norther" helped create this scene at Dyess AFB which Nelda Larance enhances greatly. Five-gallon water jug (glass) was left out, froze overnight. Glass burst, creating this solid chunk of "bottled water."

20,000 Attend Training in '61 At GD/Convair

Nearly 20,000 persons at General Dynamics/Convair received some type of training under the educational services program during last year.

Total number of classes sponsored, ranging from executive development to induction of new employees, was 1,284 with total attendance of 19,475, H. W. Rubottom, educational services chief, reported in surveying the year's activities.

"During 1961, the education and training schedule at General Dynamics/Convair was a continuing challenge," he commented. "Throughout the year there was great shifting of personnel in many departments creating special needs for emergency training and retraining."

New programs initiated during the year included a re-emphasis on value control and specific courses for General Dynamics/Electronics, including precision soldering techniques, materials handling, paperwork familiarization.

Plans for courses pertaining to the C-141 empennage project were completed during the latter part of the year. Training will be given as needed.

"A most gratifying assignment for our staff in 1961 was a new cooperative certificate program with California Western University to prepare personnel for computer programming, systems and procedures work, and for advancement in the rapidly growing field of business systems management," Rubottom said.

"This is a typical outgrowth of the trend toward automation. The program recently was expanded to provide for graduate degree credit, beginning with the fall semester of 1962."

Management development courses saw 962 taking advantage of supervisory training both in-plant and through the Convair-Cal Western cooperative program.

Orientation was given 4,161 new employees. Under the division's technical program special training courses were given 13,308. Out-plant training reached 27 in engineering professional and technical courses; 904 took manufacturing technical courses; 71, correspondence courses; 40 are in the apprenticeship training program; and two Air Force officers in the Education-with-Industry program.

Value Engineering Seminar Attended

Three General Dynamics/Fort Worth employees appeared on a recent two-day value engineering seminar held by the Institute of Management of SMU, and sponsored by Texas Manufacturers Association.

They were: William G. McMurry, director of value engineering seminars at GD/Fort Worth; C. W. Doyle Jr., value control administrator, spares department; and Richard D. A. Russell, coordinator of in-plant management seminars at GD/Fort Worth.

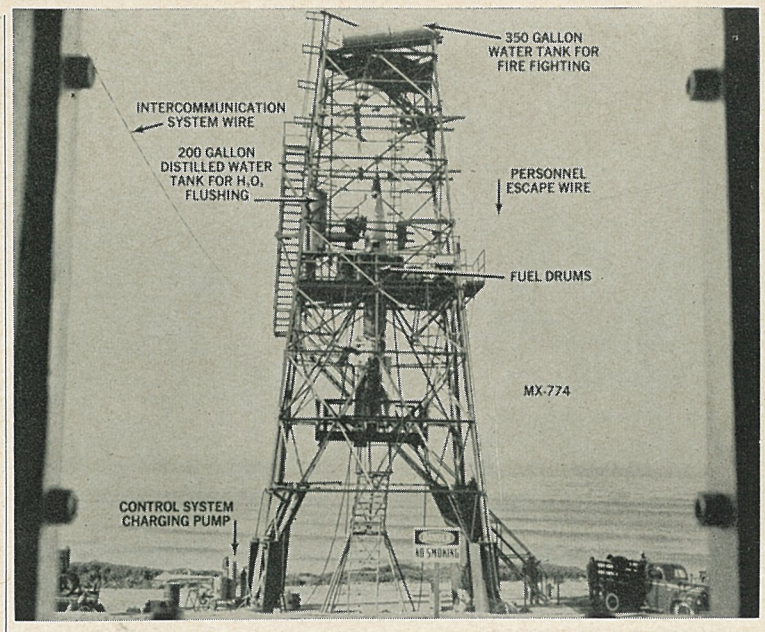
The seminar—believed to be the first of its type sponsored by a leading university — attracted a large crowd representing a cross section of Texas industry.

GD/FW's F. L. Paschal To Head AIH Chapter

F. L. Paschal, health physics administrator at General Dynamics/Fort Worth, is new president-elect of the North Texas Chapter, American Industrial Hygiene Association.

The organization deals with industrial health problems and ways to make employees more comfortable.

Paschal also serves on the technical committee for radiation of the National American Industrial Hygiene Association.



TEST STAND—This was MX-774 missile test stand at Pt. Loma (San Diego) during early years of project that later developed into Atlas.

Carry on to V-2

Ballistic Approach to Problem Adopted by Atlas Pioneers

(This is the 77th installment in a continuing history of General Dynamics products.)

During early development of what became the Atlas missile program, Convair engineers chose the ballistic approach and decided to "start where the Germans left off" (with the V-2 missile) and designed a liquid-propelled rocket vehicle that would improve on V-2 structure and propulsion, and use remote radio guidance for accurate positioning in early stages of flight.

A long-range program was set up, under which Convair would build 10 single-stage test missiles, and as this work progressed, carry forward with the design of a two-stage vehicle. Detailed design work started on some components in June, 1946, and actual fabrication began that fall. (By the summer of 1947, a major portion of the detailed design work also had been finished on a two-stage missile.)

Meanwhile, the post-war cutbacks started in research and development money. Word was received from Wright Field in December, 1946, that funds provided in the one-year contract would have to be stretched into 1948. Albert F. Lombard, an engineering consultant on the project, wrote I. M. Laddon (then Convair executive vice president) in May, 1947, that continuance of the program was in doubt.

"Our project is technically ambitious to a degree that far overshadows the German V-2 performance," he said. "To succeed, I feel that it must receive a backing financially on a scale somewhat of the magnitude of the German activities at Peenemunde."

However, the "Army Air Force has 17 missile projects and only $25 million. Each important one should be getting three or four million right now."

On July 1, 1947, the axe fell. The Air Force, due to budget cuts and its feeling that other ICBM approaches were more realistic, cancelled the Convair program, but authorized continuance of work until remaining funds were exhausted. When the Vultee Field Division was closed that summer, the project was transferred to San Diego. A static test stand was built on Point Loma and the first hot engine run was made there on the No. 1 missile in November. Three missiles were launched in 1948 at White Sands Proving Grounds, N. M.

The missile, called MX-774 after the Air Force project number —was 34 feet long, 30 inches in diameter, used alcohol and liquid oxygen for propulsion, and was designed to climb to an altitude of more than 100 miles, attaining a velocity of Mach 5. This approximated the performance of the 45-foot V-2.

CHIEF TEST PILOT TO TALK ON X-15

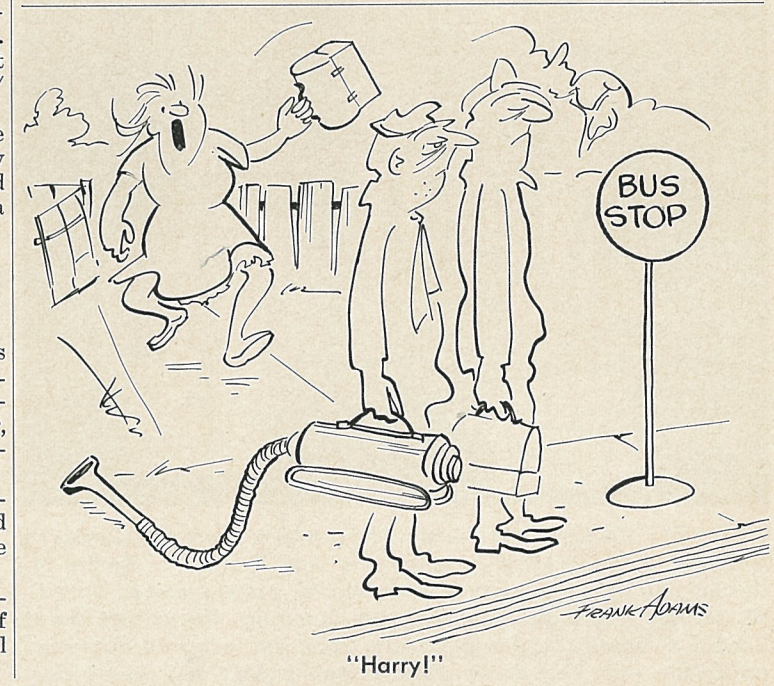
General Dynamics members of the Aerospace Electrical Society and Aerospace-Electronics Division of American Institute of Electrical Engineers at San Diego will hear NASA's chief test pilot at tomorrow's (Feb. 15) meeting.

Joseph Walker will describe and show films of the X-15 rocket plane high speed and altitude tests.

The program will be in Balboa Park's Puppet Theater, 7:30 p.m. Members and guests are invited at no admission charge.

Walker's talk on the X-15 is the first of the "Expanding Horizons" series of lectures on recent developments in the aerospace field planned by the society as a prelude to National Engineers Week, Feb. 19-25, said E. F. Kotnik of GD/Convair, president.

Other details are available from Kotnik, ext. 2432, Plant 1; or Robert Kulick, Astro main plant, ext. 3851.



"Harry!"



FIRST FOR INFO. TECH.—Raymond Lawson (center) receives gold watch from L. H. Orpin, GD/Electronics Information Technology manager, as first 25-year man in group. At right is G. D. Rice, Info. Tech. manager of operations. Lawson joined original Stromberg-Carlson company at Rochester in 1936, is now Info. Tech. production manager.

Expedition to Big Bear Scheduled Feb. 23 to 25

Ice skaters at GD/Convair and GD/Astro must sign by this Friday (Feb. 16) if they intend to join the annual winter weekend trip to Big Bear Lake next week.

The entire Wawona Lodge and adjacent cabins have been reserved for the weekend of Feb. 23-25, said Gil Crosthwaite, CRA commissioner.

Lodge rooms with private baths are available for groups up to five persons. Housekeeping cabins include double bedroom, sofa bed, and kitchenette. A few larger cabins can be reserved by special arrangement.

Meals will be served in the lodge dining room under direction of Gil Hutter, Prophet Co. cafeteria manager at Astronautics. Breakfast and evening dinner on Saturday and Sunday will be served, but no noontime lunches.

Activities for the weekend, which last year drew over 100 skaters, include plenty of skating, skiing, tobogganing on Saturday and Sunday; dancing and a midnight pizza party in the lodge Saturday night.

Transportation is by private car. Snow is on order, said Crosthwaite, so all automobiles should carry tire chains and flares for emergencies.

The "winter weekend" package, including Friday and Saturday night lodging and three meals, is $11 per person. Reservations will close and no refunds made after the Friday deadline date.

Anyone wishing to join the party may call Convair employee services offices, ext. 1245, between the hours of 11 a.m. and 1 p.m.; 4 to 5:30 p.m. Crosthwaite also will take applications at Iceland during CRA-ARA ice skating session tomorrow night.

Astro winter sportsmen may call Dixie, ext. 600, at Astro main plant.

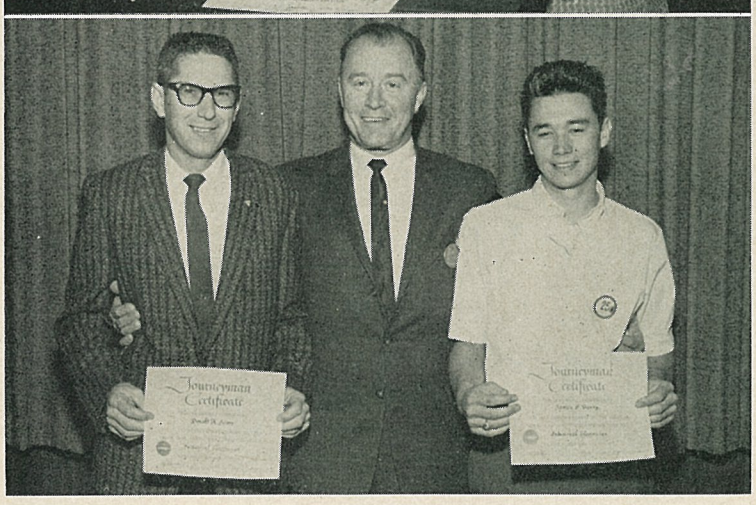
Saturday Salvage Yard Hours Listed

Salvage yards at GD/Convair and GD/Astronautics sites will be open for employee sales on the following Saturday morning schedule:

GD/Convair — Feb. 17 and March 3.

GD/Astro — Feb. 24 and March 10.





NEWEST JOURNEYMEN—Latest to graduate from GD/Convair's four-year apprenticeship program are (top) Thomas G. Binder receiving journeyman's certificate as plaster pattern maker from H. W. Meyers, superintendent tool manufacturing. Lower shot shows Donald K. Score and James E. Terry receiving industrial electrician certificates from Vern Sharp, chief of maintenance and construction.

Management Club to Hear Tom Harmon

Tom Harmon, sportscaster and former football great, will headline the list of sports personalities appearing at General Dynamics/Convair Management Club's annual "Sports Night."

All major sports will be represented at the Feb. 21 meeting in Stardust Motor Hotel, Mission Valley. Social hour will start at 5:30 p.m., dinner at 6:30.

Harmon will give his impressions of sports today and moderate a question and answer session.

A selected panel of sports experts will answer questions from the floor. On the panel will be Sammy Stein, local sports promoter; Ed Leishman, general manager of San Diego Padres; Dave Kocourek, San Diego Charger end; and Jerry Amster, former national archery champion.

Amster and a prominent golf pro also will demonstrate what to do and what not to do in archery and golf.

Musical entertainment will be provided by the Vince Fiesta Trio featuring Bernie Mack, vocalist.

Tickets at $2.50 each are available through usual outlets, said G. E. Nuss, tooling supervisor, in charge of arrangements. Tooling department is sponsoring.

Entry Extended On Net Tourney

Entry deadline for CRA and ARA Tennis Club's novice tournament at Morley Field courts Feb. 17, 18, 24 and 25 has been extended through Friday (Feb. 16).

All GD/Convair and Astro tennis fans who have failed to reach the semi-finals of an ARA or CRA singles tournament during the past year are eligible.

Pete Beyrer of CRA will accept late entries phoned to him at ext. 1245, Plant 1.

Men's singles, doubles and women's singles events are planned, as well as consolation flight in men's singles play. Trophies will go to winners and runners-up in all flights.

No entry fees will be charged and tennis balls will be provided for tournament play.

FACTORY MEN CLUED ON NEW TECHNIQUES OF MANUFACTURING

E. W. Feddersen, General Dynamics director of manufacturing engineering, reviewed European fabricating techniques before a group of General Dynamics/Convair manufacturing supervisors today (Feb. 14).

Feddersen's presentation was 10th in a series to better acquaint factory management with new manufacturing techniques in all fields.

Arranged by applied manufacturing research, under direction of W. E. Wise, GD/Convair manager of resources engineering, the "Better Manufacturing Through Better Understanding" meetings have been attended weekly by at least 60 GD/Convair supervisors.

Lectures are given once a week by experts chosen for their knowledge of the field under discussion. Sessions are open to members of the administrative staff of J. H. Famme, GD/Convair president, and selected manufacturing supervision.

Topics so far discussed include the C-141 empennage, supersonic seat, future manufacturing requirements of aerospace vehicles, and advanced processes. Future subjects will deal with fabricating and handling foils, advantages and problems of beryllium, high energy rate forming, and others.

Next Golf Tourney Will Be Circle R

Entries open next week for the March 3-4 CRA golf tourney at Circle R, said Ken Wulfemeyer, CRA commissioner.

Starting times will be assigned through all of next week, Feb. 19-23. Call ext. 1705, Plant 1.

Rose Canyon, Jets Clash in Hoop Finals

Rose Canyon and 990 Jets stood neck-to-neck as final play in first installment of GD/Convair basketball shop league drew to a climax last weekend.

The two leading teams, both with a 3-won, 1-lost record, were to settle the championship battle for first half of the tourney at last Friday night's tilt.

The other four teams were paired off in second and third standings. Tied at 2-2 were Dept. 25 and Electronics. Space Science and Servo fives had both won 1 and dropped 3.

990 Jets beat out Dept. 25 by a 57-50 score and Electronics, 35-26, in recent games on Muni Gym courts. Rose Canyon won over Servo, 40-32, and dropped its only loss to Dept. 25, 35-32. 990 Jets' one lost game went to Space Science earlier in the season.

Second-round play begins this week with Rose Canyon opening against Space Science tomorrow (Feb. 15), 6:50 p.m. on Court 3.

Electronics will meet Dept. 25 Friday night at 6:50 p.m. and 990 Jets and Servo play at 9 p.m. the same night, both on Court 2.

Hoedowners To Host Ball

Convair Hoedowners are expecting a record crowd when they host the Tri-Association Officers' Ball for the second year next week (Feb. 24).

"At least 500 square dancers, representing about 50 clubs in the area, showed up at our first ball last year," said Maury Scholz, CRA commissioner. "And we're expecting even a larger turnout this year."

The ball is sponsored by the CRA square dancing group for members of the association's three districts of Palomar, Heartland, and San Diego. The Feb. 24 event will pack the American Legion Hall, 4061 Fairmount Ave.

Dancing will start at 8 p.m. with Don Browne, Hoedowners' caller, presiding as master of ceremonies. Guest callers from other clubs, as far afield as El Centro, will be on hand to lend variety to the routines. A buffet will be served later in the evening.

Scholz reminded Convair whirlers that they still can brush up on their dancing at the refresher sessions held Thursday nights, 8 p.m., also at American Legion Hall.

Fifteen squares showed up for the monthly party night Jan. 27 to dance to the chants of Browne and guest callers, Walt Church and Virgil Sires.

Road Runners Plan Caravan to Borrego

Road Runners are making big plans to mark their second anniversary next month with a special caravan to Yaqui Pass near Borrego.

Discussion will center around the March 16-18 jaunt at tomorrow's (Feb. 15) judicial board meeting at Gillespie Field Clubhouse, 7:30 p.m. All members are invited to listen in and join in the social hour following.

Coffee and doughnuts will be served.

Board meetings, open to all of the CRA trailer group, are held the third Thursday of each month.

GD/Electronics Value Control Leader Named

A value control coordinator to head up the program specifically for General Dynamics/Electronics division at San Diego was named this month by William Lawrence, general manager.

M. M. (Pat) Reeder, assistant electronics group engineer in mechanical design, will devote full time to GD/Electronics' value control efforts, reporting directly to Lawrence.



M. M. Reeder

He will coordinate the program within the division and work closely with H. P. Williams, GD/Convair value control manager, in seminar training. For the present, men from both GD/Electronics and GD/Convair will attend the same training sessions now running continuously.

Future plans call for a separate training program for GD/Electronics.

"Every facet of value control application to our products and new business proposals will receive top management's close attention in GD/Electronics," emphasized Lawrence. "We are fully aware that value control is a necessary tool in today's competitive market."

Reeder first joined GD/Convair in experimental in 1940. Except for a couple of intervals, during which he served with the Air Force in World War II and, later, attended San Diego State College, he has been with the company ever since.

He transferred to Convair engineering in 1950, advancing to senior design engineer. He joined the GD/Electronics division in March of last year.

Ground School Begins Anew

CRA-sponsored ground school course No. 18 will start Feb. 21 at Jim's Air Service, Lindbergh Field.

Rex Robinson, GD/Convair engineer, will begin his seventh year of instruction for embryo pilots.

The 19-week course, aimed at preparing students for private pilot's licenses, is held Wednesday nights, 7:30-9:30 p.m. It is sponsored by Solo Flyers for all General Dynamics/Convair and Electronics people.

Those interested in enrolling are urged to call Robinson at exts. 2265 or 1725, Plant 1, before the Feb. 21 opening date so that he will have an indication of the size of the class. However, registration also will be taken at the first class meeting.

Twenty-five are completing the course ending tonight (Feb. 14). At least eight have already passed the Federal Aviation Agency examination required of all new pilots.

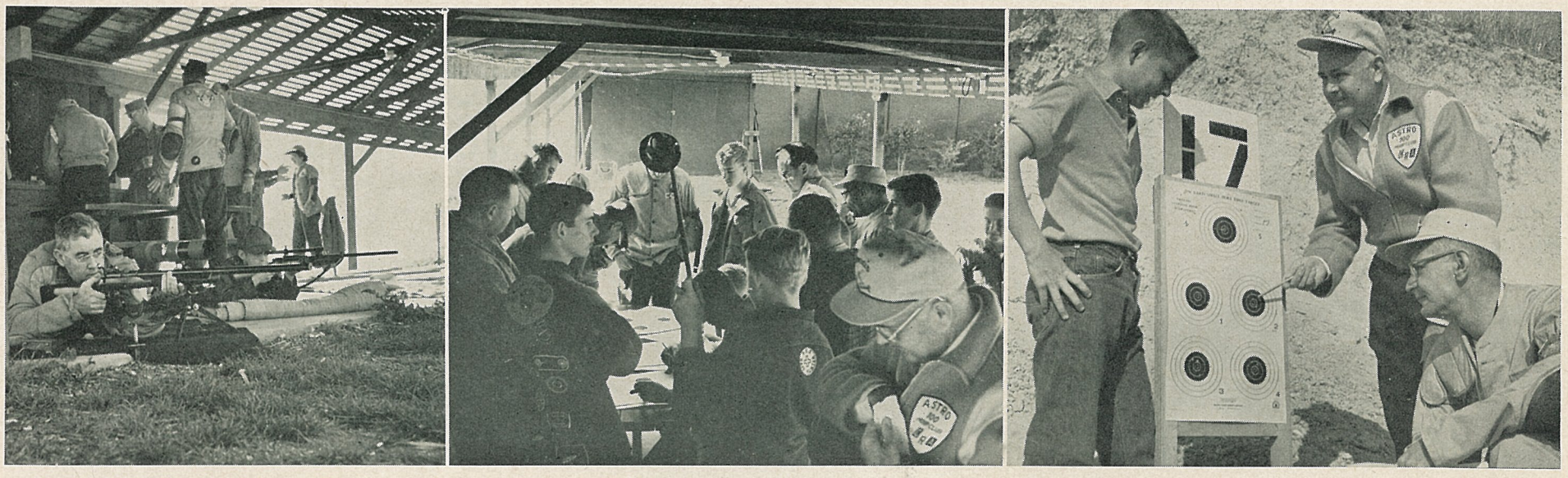
Subject matter of the ground school covers physical requirements, student permits, pre-flight checks, traffic patterns, theory of flight, navigation, meteorology, and a month's review.

Events Scheduled For Track Athletes

Hurdlers and pole vaulters at GD/Convair and GD/Astro will have a chance to enter a year-round program set up by the San Diego Track and Field Association.

Both men's and women's teams will be fielded in competition this spring and regular meets, weekly coaching, and practice clinics scheduled.

Anyone interested in entering informal competition is invited to contact Jack Dolph, coach for the association, P. O. Box 7284, San Diego 7.



AT THE SHOOT—Small bore rifle shoot Feb. 4 at Gillespie Field Range drew two score shooters. At left Dave Farrelly and son are "on target" while Mrs. Farrelly (background) "talks guns." Center: Shooters hold post mortem. Right: It's "moment of truth" for young Steve Floore as Commissioner Ezra Johnson and Bob Andrews analyze his target pattern. Range now is open Friday as well as Wednesday nights for Gun Club members.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

★ ★ ★

AEROMODELERS — Regular meeting tomorrow (Feb. 15). Call Don Larsen, ext. 2289.

BASKETBALL—Second round of plant league opens tomorrow night (Feb. 15), Muni Gym, Balboa Park.

BRIDGE—Weekly session each Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Meeting Feb. 26, 7:30 p.m., Photo Arts Bldg., Balboa Park.

FENCING—Workouts and instruction each Friday night, 7-10 p.m., YWCA, Tenth and C Sts.

GARDEN CLUB—Meeting tonight (Feb. 14), 7:30 p.m., Floral Association Bldg., Balboa Park.

GLIDER CLUB—Pacific Coast Mid-Winter Soaring Championships, Torrey Pines Glider Port, Feb. 24-25.

GOLF — CRA sweeps March 3-4, Circle R course. Entries open until Feb. 23 by calling ext. 1705, Plant 1.

GUN CLUB — Gillespie Field range open Wednesday and Friday nights.

ICE SKATING — Reservations to annual Convair-Astro weekend at Big Bear Lake close Feb. 16. Call ext. 1245, Plant 1.

MOVIES—Reduced price movies each Friday, Saturday, Sunday at Adams Theater, 3325 Adams Ave. Admission: adults, 50c; children under 12 free if accompanied by adult.

PISTOL CLUB — Next shoot Feb. 25, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (Feb. 15), 8 p.m., Harbor Drive headquarters.

ROAD RUNNERS — Board meeting open to members tomorrow (Feb. 15), 7:30 p.m., Gillespie Field Clubhouse.

ROLLER SKATING — Free skate night Feb. 19, Skateland, Front and G Sts. Tickets at employee services office, Plant 1.

SOLO FLYERS—New ground school course starts Feb. 21 at Jim's Air Service, Lindbergh Field. For registration call Rex Robinson, exts. 2265 or 1725.

SQUARE DANCING — Annual Tri-Association ball Feb. 24, American Legion Hall, 4061 Fairmount Ave. Refresher course Thursdays, 8 p.m.; advanced, intermediate classes each Tuesday, 8 p.m., American Legion Hall.

TENNIS—Novice tourney, Feb. 17-18, Feb. 24-25, Balboa Park Morley Field Courts. Entries extended to Feb. 16. Call ext. 1245.

Fishermen Offered Deep-Sea Discounts

Fishermen at GD/Convair and GD/Electronics may still pick up discount tickets for deep-sea sportfishing trips at employee services, Bldg. 32, Plant 1.

Exchange tickets are worth $1 reduction for regular $5.50 half-day trips on Seaforth Landing boats. Offer expires March 31.

Sports & Recreation

Glider Pilots Practice For 16th Championship

At least 30 General Dynamics glider enthusiasts will compete or work behind the scenes of the 16th Annual Pacific Coast Mid-Winter Soaring Championships at Torrey Pines Glider Port Feb. 24-25.



TOP SPORTSMAN—Tom Kienholz of CRA Sports Car Club proudly displays huge trophy naming him "Sportsman of Year" received at SD Council of Sports Car Clubs award night.

Sponsored jointly by the Associated Glider Clubs of Southern California, with which the CRA Glider Club is affiliated, and the San Diego Junior Chamber of Commerce, the event is one of the largest and most spectacular soaring contests held in the United States.

This year's contest will draw some of the nation's top sailplane pilots, said Gene Whigham, CRA Glider Club commissioner. Around 8,000 spectators gathered to watch 30 sailplanes perform at last year's meet, and this one is expected to create even more interest.

James Spurgeon, GD/Convair engineer, as master of ceremonies, will give spectators an insight into the finer points of contest flying. Meet chairman will be Paul La Frenier of GD/Convair production flight and expert sailplane pilot.

Among General Dynamics pilots expected to compete are Walt Mooney, Duke Stallings, and Carl Stark of GD/Convair; Sterling Starr, DeVaughn North, Al Owens, John Petre, Evan Stover of GD/Astronautics; and Connie Hanitzsch from General Atomic.

Contest events are: altitude (Convair trophy event), distance, bomb drop, aerobatics, and spot landings.

Flying hours will be 10 a.m. through 5 p.m. on Saturday (Feb. 24) and 10 a.m. through 4 p.m. on Sunday. A parking fee of $1 is charged for each car. Parking tickets, which include a chance on two season passes to Charger football games, may be obtained from CRA Glider Club members.

The coming meet will probably be the final Mid-Winter Soaring Championships held in this area, explained Whigham. The glider port site will be eliminated upon construction of Dr. Jonas Salk Research Institute.

Hornburg Grabs 'Police' Lead

Joe Williamson (Dept. 401-5) kept his grasp on top spot in .22-cal. Short National competition for the second time in a row at Jan. 28 CRA Pistol Club matches.

He bettered his Jan. 14 score by four points to mark up a 287 for first place. Jim Halfacre (Dept. 180) was second with 279; W. G. Walker (Dept. 6), third, 271; Carl Hornburg (Dept. 139), 268.

However, Williamson slipped from the winners' list in .22-cal. Police Course. Hornburg took the master class with a 291. Halfacre was second with 282. Walker's 282 was listed as third.

In the expert class Ralph Picard (GD/Electronics) shot a 278 for first; E. E. Bickar (Dept. 215), 277 for second.

Bill Mentlick, whose father is in Dept. 401-2, topped the marksman class with 254. Marty Hudson (wife in Dept. 3) was second with 237.

Pistol Club events now start at 9:15 a.m. on regular shoots, said Commissioner Ash Bishop.

World Flower Show Slides to Be Shown

GD/Convair flower lovers will see colorful scenes from the Brussels World's Flower Show at tonight's (Feb. 14) meeting of CRA Garden Club, 7:30 p.m., Floral Association Bldg., Balboa Park.

Walter Andersen of Andersen's Nursery will show his colored slides taken at the Belgium exhibit. He also will expand his program with scenes and description of his European trip through Switzerland and Germany.

Also on the agenda will be Reg Jones, advertising director of the College Grove shopping center. Jones will outline plans for the center's floral exhibit planned in April.

Guests are invited, said E. L. Zimmerman, CRA commissioner.

Friday Nights Added To Gillespie Shoots

Renewed emphasis on small bore rifle shooting attracted 43 shooters—men, women and teenagers—to a recent Sunday morning session of the joint ARA-CRA Gun Club at the group's Gillespie Field range.

Top shooters in .22 firing were G. R. Cherry, R. M. Harrington, Bill Isbell, L. Farrelly, Dave Farrelly, and R. Andrews.

While the riflemen occupied the small bore range, club trap and skeet facilities were utilized by 97 shotgun enthusiasts.

In response to popular demand, Commissioners Ezra Johnson (ARA) and Jack Swank (CRA) have announced that the facilities will be open from 7 to 9:30 p.m. on Fridays, in addition to the usual Wednesday night hours.

As in the past, the range will be manned from 9 a.m. to 1 p.m. Sundays, and hunter safety classes for youngsters will be in session from 10 a.m. until noon, Saturdays. Gun Club business meetings are held at 7 p.m., the second Tuesday of each month in the Gillespie Field Clubhouse.

Club facilities are reached from Highway 80 via Fletcher Parkway to Cuyamaca St., where a large sign marks the entrance. In the area are the clubhouse, caretaker's home, four trap and two skeet ranges, a small bore and pistol range, children's play area, large parking lots and various supporting buildings.

The ARA-CRA club charges no membership dues but range and target fees for rifle and pistol shooters are 25 cents per person, while trap and skeet shooters pay 50 cents.

Members can use a club-owned reloader, or their own equipment.

In addition to practice shooting the club sponsors many special meets each year, including competitive shoots with gun clubs throughout the area.

Both commissioners strongly emphasize shooting as an "all family" activity, and cite a motto which has become part of the club philosophy: "If you hunt with your boy, you'll never have to hunt for him." The safe handling of firearms is stressed in all phases of club activity.

Additional information on Gun Club activities is available from Johnson at GD/Astro ext. 2283, or Swank at GD/Convair ext. 1161, Plant 1.

State Association Elects Al Phipps

Al Phipps, CRA commissioner of the Convair Archery Club, was elected to state office of the California Bowman Hunters and Field Archery Association at its annual convention Feb. 3-4 in San Diego.

Phipps was chosen first vice president of the organization which represents all California archers, numbering near 100,000. The association lists 3,000 paid memberships.

The San Diego man is the only officer on the new slate from the southern part of California.

Color Guard Visits Yuma

Color guard of the GD/Convair Riding Club traveled to Yuma, Ariz., last weekend to participate in the parade and grand entry at the Silver Spurs Rodeo.

Riders making the trip were Luke Barbour, captain, Jim Hill, Mel Ishmael, Roy Simms, and Jack Ethredge.

Other Riding Club members and their families intended to be on hand to cheer the CRA entry. Parade participants are selected by invitation from the Rodeo Cowboy Association, sponsors of the contest.

In other club activities, plans are under way for a horse show scheduled in March.

Fifty members turned out for the Valentine dance Feb. 3 in Gillespie Field Clubhouse to dance to the music of the color guard combo. Special performer during the evening was Stu Cooper, guest trumpeter. Silver belt buckles and nylon hose were given as prizes during the drawing.



BUCK HARVEST—GD/Convair nimrods at Holloman AFB, N.M., display trophies of buck season. From left (kneeling) are H. L. Cloakey, W. K. Everette, M. R. Wilkinson; (standing) R. M. Runyan, J. W. Harlow, F. J. Schmitt, R. L. Blades, K. E. Grantham, M. C. Terry, K. F. Jones. Grantham had high honors with a 10-point, 22½-inch spread; Blades, second; Terry, third.



PRESENTATION—Secretary of Labor Arthur J. Goldberg congratulates K. M. Williams of GD/Astro on receiving certificate of merit for efforts at Warren AFB. At left is R. T. Castrey, similarly honored for work at Forbes AFB. At right is Robert E. King, assistant to General Dynamics senior vice president-industrial relations, and a member of the President's Missile Sites Labor Commission.

GD/Astro Men Honored For Labor Relation Job At Two Missile Bases

Two General Dynamics/Astronautics industrial relations men, R. T. Castrey and K. M. Williams, were among a number honored by Secretary of Labor Arthur J. Goldberg last month in recognition of their contribution toward completion of two Atlas complexes ahead of schedule.

They received certificates of merit in a ceremony at Washington, D. C.

Williams was honored for his work at Warren AFB where he served as chief of industrial relations. Castrey's award was for a similar contribution at Forbes AFB. Both were members of the President's Missile Sites Labor Commission, organized to handle labor problems at missile and space construction sites.

Awards were presented by Secretary Goldberg for "the fine record made at the Forbes and Warren bases."

A letter from President Kennedy was read at the ceremony. The President reported that the American people "can also feel secure in the knowledge that today, as a result of cooperation between labor, management and government, every missile site construction project is expected to be completed on time or ahead of schedule."

The President cited work records: at Forbes 217,000 man-days were worked after the President's Missile Sites Labor Commission was established, without a single man-day lost to labor disputes; at Warren, 322,300 man-days were worked, with only 23 man-days lost.

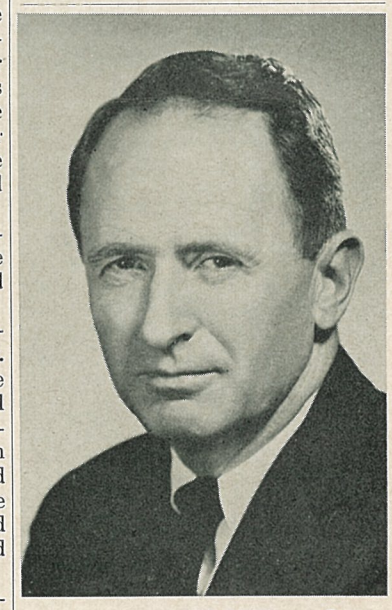
"I am sure the American people join with me in an expression of appreciation to the men you honor today and to the many others who are doing the work on these important installations," the President wrote.

Praising the local Missile Site Labor Relations Committees, Secretary Goldberg said:

"The dedicated men who serve on these committees have a difficult and arduous task of dealing with the day to day problems which inevitably arise in the human relations involved in getting these missile sites built. The record achieved . . . is due in great part to the dedication, ability and efforts of the members of these local committees who have prevented problems from arising, as well as settled many differences that did arise."

The Secretary also congratulated the individual missile site workers for cooperation. "By and large the workers at these vital installations have given their wholehearted support to the no-strike, no-lockout pledge given by union and company leaders in the industry," he added.

In addition to the two GD/Astro men, a number of other management, military and union representatives received similar awards, including the International Association of Machinists and the International Brotherhood of Electrical Workers.



NEW PRESIDENT — Roger Lewis, formerly of Pan American World Airways, will take over as president of General Dynamics Corporation in April, when Earl D. Johnson becomes Chairman of the Board.

New 'Teaching Machine' Field Offers Sales Potential For Tech Writers

Technical writers in at least two General Dynamics divisions are turning their attention to development of a new capability—programming for teaching machines.

Selected groups from General Dynamics/Convair and General Dynamics/Astronautics are being introduced to the revolutionary training and education concept in a series of corporation-sponsored seminars.

"Skills of our trained technical writers are ideally suited for preparing material for programmed instruction," stressed Howard R. Kennedy, GD/Convair manager of technical publications.

"We are concerned mainly with application of the new programming method—breakdown of material into easy-to-learn steps—to our own products. Information already compiled for our customer training programs can be adapted readily for use in any type of mechanical device.

"We feel that there is considerable sales potential for such material, principally to the military, and intend to explore every possibility for this type of business."

Experts in the field of programmed instruction for teaching machines briefed 32 GD/Convair and GD/Astro men on principles and potentials of programming at the initial training session, "Operation Bootstrap," the first of the year. Dr. Joe Sidowski, San Diego State College psychologist, described adult learning principles as related to automated instruction.

This session was followed by a formal classroom course, Jan. 17-26, conducted by Dr. Robert F. Mager of Varian Associates, Palo Alto engineering firm. Dr. Mager is a recognized authority in the field.

Meanwhile, service engineering writers at GD/Convair are applying the new programming approach to subject material with which they are familiar. Material on such company projects as operation of the supersonic B seat, 990 integrated instrument panel, is being converted into form which could be used in training devices.

GD/Astro technical writers will be applying the new programming method to their own specific projects.

Other General Dynamics divisions are eyeing the field. At GD/Pomona work has been done on development of an audio-visual device and accompanying programming. Electric Boat has designed a device for in-house training and production work.

"There is no limit to the possibilities in this field," said Kennedy. "Schools, industry, military services, and government are becoming more and more interested in mechanical training methods.

"At least 60 per cent of all textbook or manual material can be programmed. That is, presented in step-by-step sequence to the student. This is called 'frame' writing. Questions and answers can be fed to the learner, one at a time, so that he is led progressively into more and more information. The learner can immediately check and test himself, and set his own pace.

"Programmed material, such as our specialized writers will be preparing, can be used in any device, from the simplest form of a manual with a cardboard shutter pushed down the page by hand to complicated computerized machines."

Surveys show that students can learn more in less time with better understanding by the teaching machine method. Less instructor time is required. Information and instructions can be absorbed in isolated spots—out in the field, in space vehicles.

Areas within the company which can use this type of programming include customer service training and retraining, maintenance and repair, operations; employee training, and conceivably, assembly and production.

The General Dynamics-sponsored program has been developed through cooperative efforts of human factors engineering, customer service, service publications, and educational services.

990 Passenger Flights Begin, Zurich-Tel Aviv

First Convair 990 jetliner passenger flights began last week over European routes.

Swissair, first airline to place the 990 in service, made the initial 990 Coronado flight from Zurich, Switzerland, to Tel Aviv, Israel, last Wednesday (Feb. 7). Return flight was the next day.

The second run was scheduled Zurich to Vienna, Austria.

American Airlines will put the newest commercial jet transport into domestic service in mid-March.

The Convair 990 will make its debut in scheduled U. S. passenger service March 18 on American's New York to Chicago route.

G. Marion Sadler, vice president and general manager of American, said the airline's 990 Astrojets will begin flying two round trips daily between New York International Airport and Chicago's O'Hare Field on that date.

By summer American expects to expand 990 Astrojet service to include Detroit, St. Louis, Newark, Cincinnati, and Dallas. Later in the year other cities will be added, Sadler said.

Between now and start of scheduled service next month, 990s delivered to American will be used for a comprehensive flight, maintenance, and familiarization program.



VANGUARD—GD/Convair and GD/Astronautics men study principles of new programming concept in corporation-sponsored seminar at San Diego. Standing (left background) is Dr. Robert F. Mager of Varian Associates, expert on teaching machine methods.

Astro Names Project Chiefs

Two new chief project engineers have been named at General Dynamics/Astronautics. They are C. J. Dunn for Atlas weapon systems project management and P. E. Culbertson for Atlas space launch vehicles project management.

Dunn has been with GD/Astro since 1957 when he joined the company as a staff specialist. He was named a senior project engineer later that year.

A native of Gary, Ind., Dunn attended Gary College and holds a BS degree from the Aeronautics University (Chicago).

Culbertson, from Colfax, Wash., holds a BS degree from Georgia Tech in aeronautical engineering and a MS in the same subject from the University of Michigan.

B-58 'Workhorse' Slated For Service With NASA

Hustler No. 4—until recently the most active B-58 flying, and a real workhorse in the GD/Fort Worth stable of test planes—has been returned for updating and reassignment.

Tentative plans are to modify No. 4 for National Astronautics and Space Administration, which will use the plane in simulated flights over regular commercial routes.

"Among other things, the B-58 would be used to determine handling characteristics of a supersonic plane on approaches to regular air fields," said Walter E. Alling, flight test control engineer who has been with No. 4 since the wing-mating stage.

A crew of E. E. Guthrie, pilot; G. C. Tate, navigator; and O. D. Lively, DSO, recently completed a series of 34 pod drops before turning the plane over for modification. The record included the first supersonic pod drop in 1957, 10 MB pod drops, 17 TCP upper-component drops and seven lower-component drops. Several of these were at low altitudes.

A. S. "Doc" Witchell was at the helm in August, 1957, along with Tate and B. D. Miller, when No. 4 roared aloft for the first time. Since then, she's logged over 165 flights. Only TB-58 No. 11 has made more.

Used mainly as a "test" aircraft, No. 4 once recorded as many as 567 items of test data on a single flight. "This possibly is the greatest number of points ever recorded by a plane on a single flight," Alling said.

Other test programs have included: MB pod drops; air conditioning system evaluation; environmental tests; sonic fatigue; stability and control; wing heaviness; and TCP air loads.

"Very likely the most unusual test was done on a Dynasoar wing panel (Dynasoar is a proposed manned orbital vehicle), fitted on a B-58 wing and tested through the Mach 2 speed sequence," Alling said. "We made about 20 flights alone on this project."

Alling came to know No. 4 "about as well as I know my wife" during the plane's flight history. He was "away from her" for only a few months in 1960, when No. 4 was in service at Carswell AFB.

Roger Lewis Takes Over Dynamics Presidency

Roger Lewis last week took over as president of General Dynamics Corporation, succeeding Earl D. Johnson.

Frank Pace Jr., chairman of the board, made the announcement Thursday following a directors' meeting in San Diego.

At the same meeting Johnson was appointed vice chairman of the board. Pace will remain chairman until the annual meeting April 26.

Lewis, former executive vice president of Pan American World Airways System and veteran aircraft manufacturer and airline executive, previously had been expected to take over in April. The first announcement that Lewis would become General Dynamics president came Jan. 25 and since then he has visited most of the divisions to gain firsthand knowledge of problems.

A native of Los Angeles, Lewis was graduated from Stanford University in 1934 and went to work for Lockheed Aircraft in the metal shop, working up through manufacturing control and purchasing to become director of materials during World War II. In 1945 he was named assistant general sales manager.

Lewis joined Canadair Limited in 1947 as a vice president, went to Curtiss Wright in 1950 in a similar post before joining Pan American.

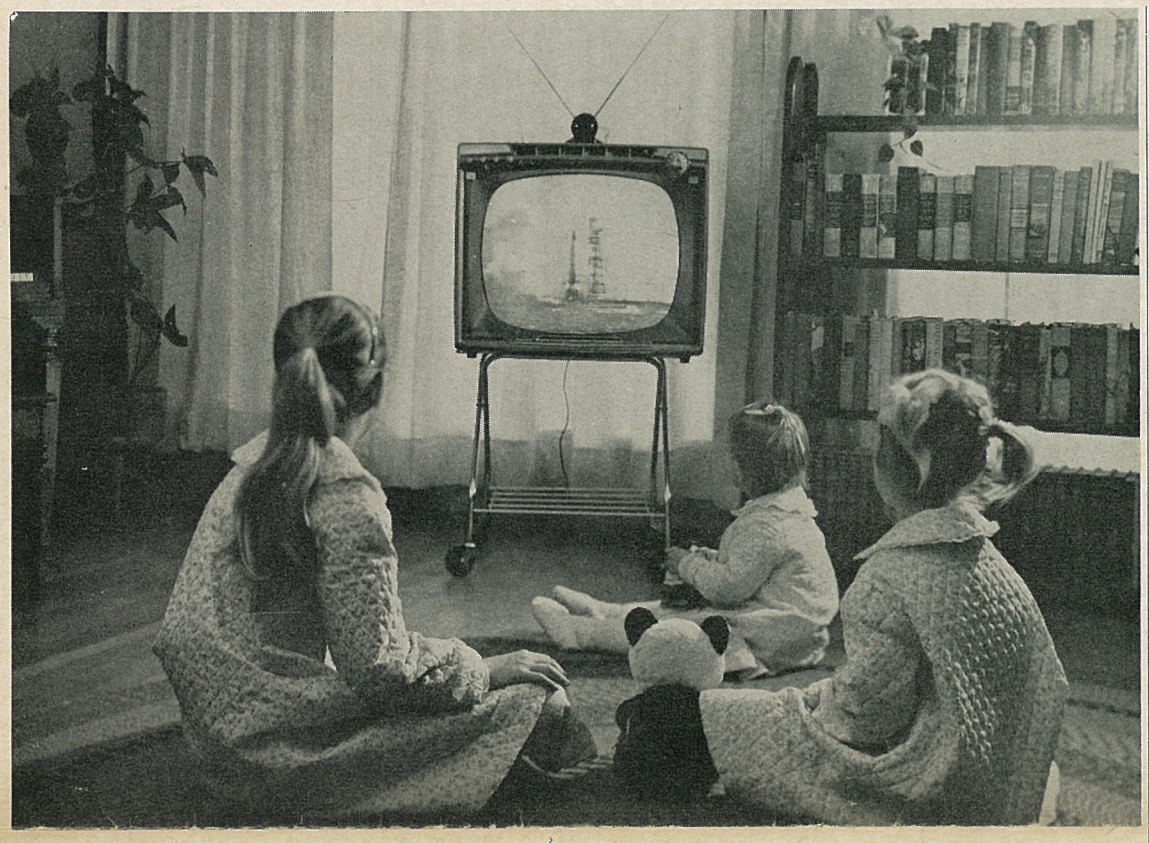
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SAN DIEGO EDITION

GENERAL DYNAMICS

NEWS

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WATCHING WORLD—GD/Astro Photographer Jack Stevens' photo of grandchildren, taken just as Atlas 109-D lifted off, captures mood and feeling of a nation. Youngsters are Sandy, 10, Pam, 2, Sheri, 5, photographed at San Diego.

Atlas 109-D Puts Astronaut Glenn In Earth Orbit

(Photos on page 3.)

Although within the General Dynamics family GD/Astronautics Division was the most directly concerned when an Atlas missile last Tuesday (Feb. 20) placed astronaut John Glenn in orbit, all of General Dynamics shared in the pride of accomplishment that extended throughout the nation.

It was a normal work day for most of GD/Astro at San Diego and the off-site bases, and the same applied at Cape Canaveral, except for Test Conductor Tom O'Malley and his Complex 14 crew of about 100, who launched Atlas 109-D. Only a few others at the main plant, and a scattered number of Astro men at tracking stations around the globe, worked an extended day.

Otherwise it wasn't a normal day at all. At rest breaks and lunch periods there was a dash to TV sets and radios, an exercise that GD/Astro shared with uncounted millions of others within and outside the U. S.

Timing favored West Coast listeners, for the most part. Many rose early to follow pre-launch coverage at home. Fortunate were those who found space around TV screens at the plant to watch the liftoff of Atlas 109-D at 6:47 a.m. (PST). Through regular work periods news concerning the flight moved quickly by word of mouth. Radio reports, piped into the cafeteria, covered the recovery of the Mercury spacecraft at 12:01 p.m. (PST) after a four-hour, 56-minute flight covering 81,000 miles through space.

From the start there was absorbing interest throughout General Dynamics, not at all limited to GD/Astro and GD/Electronics, the two divisions most directly involved. (GD/Electronics designed and built the control display system at Cape Canaveral that picked up data from 18 stations around the world, showing the capsule's progress.)

Naturally, those who designed, fabricated and tested Atlas 109-D were the most prideful, but so were the other thousands involved in Project Mercury. All had given 109-D their extra best. It had been a team effort in which 32,000 from GD/Astro and many more from other contractors had joined under NASA and Air Force leadership.

"This flight marks the beginning of a new era in man's conquest of the unknown, an era which must be one of the most exciting in recorded history. Let us all work to make it an era in which the dignity of man will be the rule, rather than the exception, of world society," GD/Astro President J. R. Dempsey commented.

Consolidation Cutting Down on SD Expenses

Consolidation of operations at General Dynamics/Convair achieved through "Project Advance" is cutting expenses by hundreds of thousands of dollars in the first month of activity.

Projects already completed have cut costs by $300,000 with at least $1 million in savings in sight, said R. D. Marks, general supervisor of manufacturing support and projects.

Such division facilities as tool cribs and paint shops have been consolidated to eliminate unnecessary manhours and outside service costs. Seventeen rest rooms throughout the division are being closed to save utility

(Continued on Page 2)

Cathay Pacific Accepts 880-M

Cathay Pacific Airways Ltd. pilots and flight engineers will flight test their Convair 880-M at San Diego next week, following a five-week ground school.

The Hong Kong airline is the 13th customer sending flight crews to San Diego for production flight ground courses.

Cathay Pacific, an associate company of Butterfield and Swire, took delivery on its Convair jetliner last week.

Formal classroom sessions end this week for the 18 Cathay Pacific pilots, first officers, and flight engineers. Heading the group is Dave Smith, flight superintendent. N. J. Marsh, assistant flight superintendent, and D. S. Delaney, chief inspector now based at General Dynamics/Convair as customer representative, sat in on most of the classes.

They will continue familiarization in the 880-M cockpit procedures trainer throughout next

(Continued on Page 2)

Club Members To 'Wear Green'

Management Club members and their guests at General Dynamics/Convair will be "wearing the green" as they celebrate St. Patrick's Day with their annual spring dance March 17.

Tickets went on sale last week at usual outlets at $3 per couple, said Art Ratz, chairman of the affair sponsored by material department.

Alvino Rey's Orchestra, name band, has been signed to play for dancing in El Cortez Caribbean Room from 9 p.m. to 1 a.m.

Master of ceremonies will be Lon Tubbs. Refreshments will be served during the latter part of the evening and raffle prizes, selected specially for the ladies, awarded.

Working on the arrangements committee are: Roy Fildes, ticket chairman, ext. 2232 at Rose Canyon; Vern Mardis, raffle; John Stoffel, arrangements; Vern Burns, decorations; Bud Thacker, finance; George Davidson, orchestra; Fred Puryear, publicity; Ray Lange, board of control adviser.



SIGN IN, PLEASE—Emmett Williams, right, accepts Ship No. 24 from Les Boring, but there was no smile a few minutes later when reminded that he had agreed to "ticket the ship" in 13 days or "play a violin concert from the wing." Others, from left, are Carl Uhl, Bert Mundt, Jack Slean, Frank Stevens.

Violin Concert, or Trumpet Solo, Slated March 7 on 990 Wing!

"Give me a 100 per cent ship and I'll ticket her in 13 working days . . ."

It was Emmett Williams, superintendent of field operations, talking. The remark stuck to Les Boring, final assembly superintendent, like a cocklebur under a saddle blanket, and it penetrated likewise. The time came when he could ask Emmett:

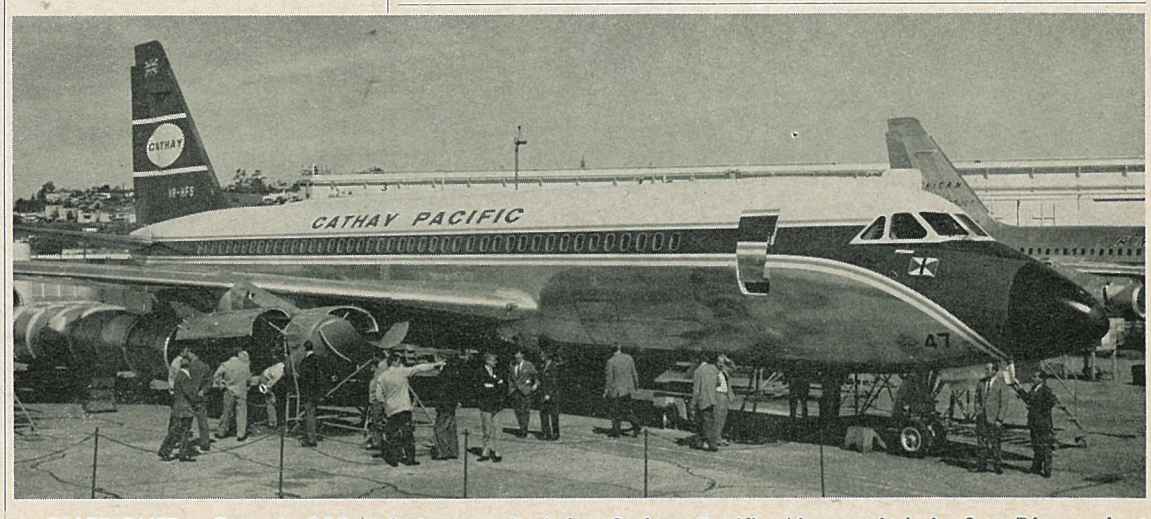
"And what if you can't?"

Feeling safe, Emmett blurted:

"If I can't I'll give a violin concert from the top of the wing!"

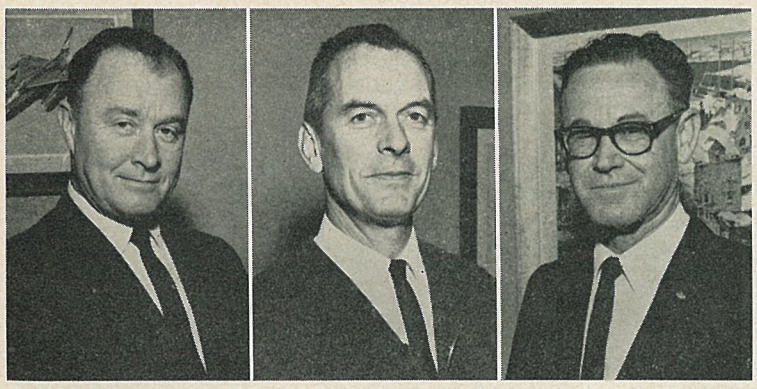
And then along came Ship No. 24 on Feb. 16 and Emmett was beginning to have some

(Continued on Page 2)



ONCE-OVER—Convair 880-M being readied for Cathay Pacific Airways Ltd. in San Diego plant field operations is inspected by interested Cathay Pacific crewmen. Metal shields in front of engines, commonly called "sugar scoops," protect workers, keep foreign particles from jet power plants.

Log Book Entries



TWENTY-FIVE YEARS—Vern Sharp, left, Dept. 20-0, Richard Small, Dept. 171, and H. R. Kennedy, Dept. 16-1, are latest veterans at GD/Convair to receive 25-year service emblems.

Service Emblems

CONVAIR

Service emblems due during the period Feb. 16 through Feb. 28.

Twenty-year: Dept. 1-11, E. W. Feddersen; Dept. 16-7, Elise W. Rall; Dept. 25, M. E. Hensley, Darrel Hunstable, E. F. Need; Dept. 45-1, Dixie W. Holmes; Dept. 48-46, D. T. Espinosa; Dept. 95-0, W. O. Zook; Dept. 101, G. K. Cox; Dept. 140, J. G. Coe, T. W. Kerns; Dept. 148, Bruno Ramasco; Dept. 170, F. S. Smith; Dept. 180, Lloyd Parsons; Dept. 223, W. L. Pritt; Dept. 271, E. F. Custenborder; Dept. 400-3, V. B. Rakestraw Jr.; Dept. 401, C. W. Ellis.

Fifteen-year: Dept. 1-17-2, M. H. Wilt; Dept. 3-1, P. F. Puckett; Dept. 12-0, R. L. Williaford; Dept. 48, O. L. Horton; Dept. 101, W. K. Richeson; Dept. 119, W. H. Carson; Dept. 120, Alva M. Nida; Dept. 123, Leonard Redman; Dept. 146, C. L. Williams; Dept. 148, C. T. Beck; Dept. 192-1, Edward Pinheiro; Dept. 400-7, Elizabeth C. Lauer.

Ten-year: Dept. 3, F. C. Colson, Belva Jacobs, Lorna S. Payne, Helen H. Werdelman; Dept. 6, Phyllis R. Eakin, Jean A. Malthaner, H. B. Marshall Jr., H. R. Roush, D. L. Young; Dept. 11-0, E. L. McDonald; Dept. 14, Alfonso Haro, Lila J. Larkins, Edna N. Madruga, Ernest Meza, Dorothy I. Stark; Dept. 15-3, P. M. Brown.

Dept. 16, Minnie S. Kilmer, Lucile G. Learned, J. E. Matthews, Evelyn B. Stanaker; Dept. 21, J. R. Coutee, C. W. Haley; Dept. 23, J. P. Sandlin; Dept. 24, R. E. Dennington; Dept. 25, L. R. McEntee; Dept. 34, L. J. MacDonald, J. S. Martinez; Dept. 44, Fred Ferguson, Regina K. Lonergan, Gladys H. Wadkins.

Dept. 48, Harriet F. Baldwin, Dorothy M. Bolland, D. H. Douglass, Roberta L. Kunce, R. W. Pearson; Dept. 91-0, G. V. Baughman; Dept. 116, Florence D. Reickert; Dept. 119, W. V. Gallegos, Olga D. Tait; Dept. 120, Louise O. Jimmerson; Dept. 123, Hazel K. Curtis; Dept. 129, Eglantina S. Garcia.

Dept. 133, Odessa E. Miles, Gladys O. Mize; Dept. 137, P. R. L. Guerrero; Dept. 138, V. L. Bernard, Beulah G. Farmer; Dept. 139, Dolores L. Kiar; Dept. 140, Lavada W. Castile, George Kerecman; Dept. 142, C. C. Reth, Everlean B. Shelby, Lloyd Von Tungeln; Dept. 146, E. L. Chapman, W. E. Goble Jr., D. N. Smith.

Dept. 148, Elsie L. Gonia, Manuel Ochotorena; Dept. 171, C. R. Ivey; Dept. 204, E. O. Stallworth; Dept. 215, Charles Bajema, W. H. Shankle, G. W. Smith; Dept. 216, Bessie E. Salyer; Dept. 218, M. E. Carr; Dept. 400, Florence A. Grove; Dept. 401, N. L. Tuttle.

GD/ELECTRONICS

Fifteen-year: Dept. 6-5109, R. E. Hummer.

Ten-year: Dept. 6-5107, Carmen P. Fredericks.

Promotions

CONVAIR

Promotions to or within supervision effective Feb. 12.

Dept. 6-700, Engineering: To technical group engineer-aero, J. D. Donaldson.

Dept. 17-0, Marketing: To senior requirements engineer, C. R. Dutton, P. F. Mouritz.

Dept. 20-0, Operations Planning: To manager systems & procedures & data processing, R. C. Hartwig.

Dept. 44-5, Material Control: To material control supervisor, H. A. Adams Jr.

Dept. 400-7, Tooling: To proof planning asst. supervisor, T. P. Emery.

GD/ADVANCED PRODUCTS

Dept. 986-1: To general manager, M. J. Gallagher.

GD/ELECTRONICS

Dept. 3, Quality Control: To inspection supervisor, J. M. Herring. To inspection asst. supervisor, D. V. Hill. To quality assurance supervisor, W. A. Huot. To asst. group engineer, B. A. Ledbetter.

Births

CONVAIR

CARLTON—Daughter, Carla Jean, 7 lbs., 12½ oz., born Feb. 19 to Mr. and Mrs. P. R. Carlton Jr., Dept. 192.

GD/ELECTRONICS

ROMERO—Daughter, Debora Sue, 7 lbs., 15 oz., born Feb. 6 to Mr. and Mrs. Robert P. Romero, Dept. 7.

Retirements

CONVAIR

ANDERSON—Emmett H., Dept. 139. Seniority date Sept. 6, 1950, retirement effective Feb. 16, 1962.

BROWN—Ralph M., Dept. 140. Seniority date Oct. 1, 1956, retirement effective Feb. 9, 1962.

CIOFALO—August C., Dept. 401. Seniority date Sept. 18, 1951, retirement effective Jan. 26, 1962.

HELDENBRAND—John B., Dept. 140. Seniority date Sept. 14, 1942, retirement effective Feb. 5, 1962.

HUNT—John M., Dept. 206. Seniority date Nov. 25, 1946, retirement effective Feb. 9, 1962.

JOHNSON—George I., Dept. 145. Seniority date Jan. 18, 1952, retirement effective Feb. 9, 1962.

MATTEI—Marcus J., Dept. 192-4. Seniority date Nov. 29, 1951, retirement effective Feb. 16, 1962.

NILSON—Nils I., Dept. 31. Seniority date Jan. 7, 1955, retirement effective Feb. 9, 1962.

NIVEN—Richard, Dept. 148. Seniority date Oct. 25, 1950, retirement effective Feb. 9, 1962.

RAVETTINO—Antonio A., Dept. 101. Seniority date Jan. 11, 1951, retirement effective Jan. 31, 1962.

Personals

CONVAIR

The family of Merle Idamae Crist (Dept. 120), is most grateful for the kind expressions of sympathy from Convair friends.

GD/ELECTRONICS

Your kind expressions of sympathy received at the recent death of my wife are deeply appreciated and gratefully acknowledged.

T. H. DuBois, Dept. 2.

Deaths

SAN DIEGO

AHERN—Vernon W., Dept. 145. Died Feb. 9. Survived by wife, Lucille, son, brother, sister, and parents.

BALDRIDGE—James E., Dept. 146. Died Feb. 7. Survived by wife, Elizabeth.

HODINA—Nelson, Dept. 401. Died Feb. 13. Survived by father, two sisters.

LOYA—Manuel, Dept. 123. Died Feb. 15. Survived by wife, Julia.

STANDRING—John J., Dept. 171. Died Feb. 10. Survived by wife, Marie, two sons, sister.

Gate Hours For Plant 2 Set

Inter-plant road between Plant 1 and Plant 2 at GD/Convair was reopened to traffic last week.

Gate No. 20, located at the south end of Plant 2, is now open from 7:30 a.m. until 12:30 a.m. on week days, said F. G. Merritt, manager of industrial security. The gate is closed Saturdays, Sundays and holidays.

Gate No. 23, with access from Pacific Highway, is open 24 hours a day, seven days a week.

Company vehicles may enter and leave Plant 2 at either gate during the above hours.

All other authorized vehicles, including contractors, vendors, commercial vehicles, must enter and leave Plant 2 by Gate No. 23 from 12:30 a.m. to 7:30 a.m., and at all hours on weekends and holidays. At all other times, such vehicles must use Gate No. 20.

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Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: James Combs Jr., editor; Carol Colbert. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

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Consolidation Cutting Costs

(Continued from Page 1)

and service expenses. The number still open is well within California state regulations.

Improved stripping techniques evolved by a "Project Advance" team have cut the time needed to remove the protective coating on jet transports by 300 manhours per plane and reduced cost of chemicals $1,625 per ship.

Marks, who is spearheading the drive to eliminate duplication of operations and improve existing methods, lauded all departments for cooperation in the campaign.

"We have been overwhelmed with response from every section of the division in initiating economical changes within their own functions.

"Through 'Project Advance' we intend to keep abreast of ever-changing conditions and help keep the division in a favorable competitive position as it shoulders new business endeavors."

Five projects already have been completed and implemented. Twelve are being evaluated at present. An additional 14 are on the agenda for "Project Advance" team consideration.

Every employee can submit ideas to "Project Advance" headquarters, Room 39, Bldg. 1, Plant 1, ext. 2000.

GD/Electronics Man Heads New Chapter

A. M. Barnise of General Dynamics / Electronics Information Technology group is current chairman of the newly-chartered San Diego Chapter of National Association of Professional Contracts Administrators.



A. M. Barnise

Other pro tempore officers are G. B. Ronk of Solar Aircraft, vice chairman; F. J. Le Bouef, National Steel and Shipbuilding, secretary; E. P. Coffey of Ryan Aeronautical Co., treasurer.

Twenty-five San Diego area men holding positions of contract managers, negotiators and administrators in contract departments have been accepted for membership.

Violin or Trumpet Concert Foreseen

(Continued from Page 1)

regrets, particularly when F. H. "Red" McLaughlin, manager of factory production, got into the act.

"I've heard both you guys do some horn blowing in the past, so let's get this down on sheet music," he commanded. "Ship No. 24 is 100 per cent."

With a Machiavellian touch for which Red has been famous before, he produced a scroll ready for signature. Emmett hung back but Les was delighted and had already signed before he realized that he had agreed to "give a horn concert from the wing if the ship is ticketed in less than 13 days."

Still blustering, Emmet signed. The checkered flag dropped. The race was on. And that is where the matter rested at press time, though the verb is ill chosen. There's no rest for Williams and his crews. And not much for Boring, either. Les is taking trumpet lessons at night.

The "show"—violin concert or trumpet solo—is set for 11:05 a.m. March 7.

GD/Convair and Astro Set Salvage Hours

Employee sales hours at GD/Convair and GD/Astro salvage yards will be open on the following Saturday morning schedule during the next month:

GD/Convair—March 3, 17, 31.

GD/Astro — March 10, 24.



JET STREAM—Fire Chief D. D. Dimmitt of GD/Convair watches new crash truck shoot out billowing spray of liquid foam during acceptance tests. Operating turret nozzle is Lt. Miles T. Davis of GD/Convair fire department.

Versatile New Crash Truck Joins GD/Convair Fire Equipment

Fire fighting equipment at General Dynamics/Convair has been augmented with arrival of a new 48,000-lb. crash truck for protection of aircraft on the company's flight line and San Diego municipal airport.

The huge truck was built to GD/Convair's specifications by Yankee Fire Apparatus Co., Los Angeles. It has joined the department's smaller crash trucks on the flight line west of Bldg. 4, Plant 1, where they are manned 24 hours a day.

These trucks stand by during all takeoffs, landings and fueling of Convair planes, and are on the alert at all times for any kind of emergencies on Lindbergh Field, said Chief D. D. Dimmitt of the GD/Convair fire department. Last year alone plant equipment made 57 runs in answer to emergency situations at the airport.

The newly-acquired truck can lay down 20,000 gallons of expanded foam at 600 gallons a minute through its hydraulically-controlled turret nozzle and two 150-ft. hoses.

The turret is propelled by a Darley single-stage centrifugal pump powered by a Ford industrial engine. Located near the front of the truck, it can make a full half turn with fire-fighting liquid reaching 175 feet distance.

Other equipment includes crash entry tools, such as Stebco seat belt knives and electric metal saws; portable spot and flood lights; a 16-ft. aluminum crash rescue ladder; and a collapsible 15-ft. stair-type evacuation ladder with folding handrails.

Special 'Passports' Offered Employees

"Passports to Disneyland," for admission and unlimited rides and attractions, are available at GD/Convair employee services.

Total price to Magic Kingdom Club members, open to all General Dynamics employees, is $4 for adults and juniors, 12-17; $3 for children under 12.

The package offer is open through April 13.

The park is open Wednesday through Sunday, 10 a.m. to 6 p.m. until the April deadline date.

Cathay Pacific Accepts 880-M

(Continued from Page 1)

week, said P. H. Selby, production flight training supervisor.

The plane will be flown to the Hong Kong base, probably the latter part of next month, according to present plans. Sherman Johnson, GD/Convair pilot, and C. J. Falkenthal, flight engineer-instructor, will accompany the 880-M to Hong Kong.

Falkenthal conducted classes in hydraulics, air conditioning and pressurization, and adverse weather during the ground school at San Diego. Other flight engineer-instructors were Roger W. Chaney and Joe Curado.

Curado was in charge of electrical, electronic, auto-pilot, and instrument training. Chaney taught power plant, fire detection and extinguishing, and fuel system classes.

Groups from Viasa of Venezuela, Japan Air Lines, and American Airlines will be at the San Diego plant during the next month for follow-on ground school courses, said L. W. Hughes, flight training coordinator.

A full five-week ground school and instruction in the 880-M cockpit procedures training will begin Monday for Viasa. Two groups of JAL flight crewmen will be at San Diego the weeks of March 12 and 19 for 880-M cockpit procedures trainer familiarization.

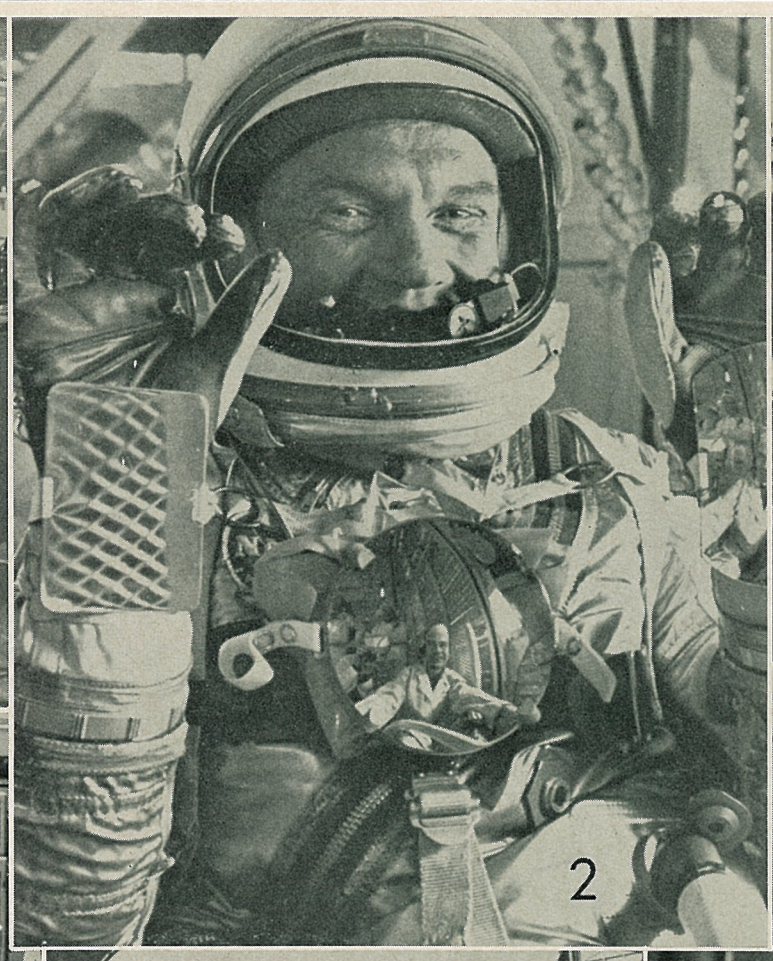
Maintenance personnel from American Airlines network will come to San Diego for 990 trainer instruction over the next five months. Three days each month have been set aside for their use of the trainer, Hughes explained.

Following is roster of Cathay Pacific flight men now at GD/Convair: P. Blown, chief pilot; A. B. Armstrong, G. F. Leslie, J. F. C. Carrington, L. G. King, pilots; R. C. Hardwick, J. H. S. Greenwood, C. K. Bushe, N. S. McQuilkin, P. K. Stockel, first officers; R. J. Smith, W. B. A. Holyman, D. E. Brown, S. Pain, L. H. Weston, J. A. White, flight engineers.



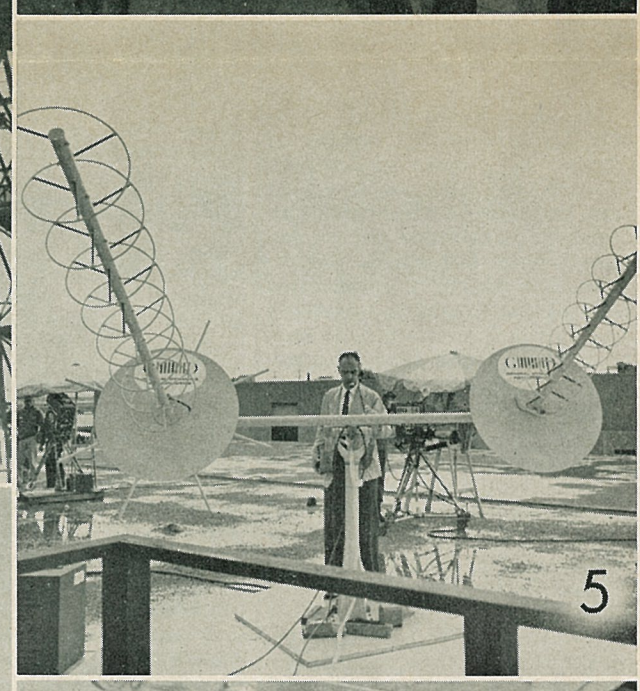
CATHAY PACIFIC CREWS—Pilots, flight engineers who will fly Convair 880-M out of Hong Kong for Cathay Pacific Airways Ltd. line steps of craft at GD/Convair. Top, second from left, is Dave Smith, Cathay superintendent of flight; (far right), N. J. Marsh, assistant flight superintendent. GD/Convair men conducting ground school include (bottom, at left) L. W. Hughes, flight training coordinator; Joe Curado, and (at far right) Chuck Falkenthal, Roger Chaney, all flight engineer-instructors.

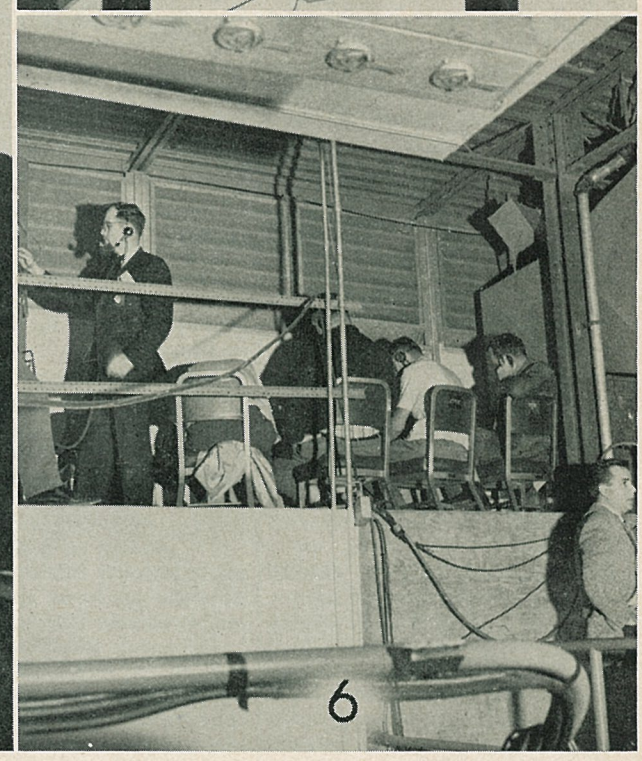

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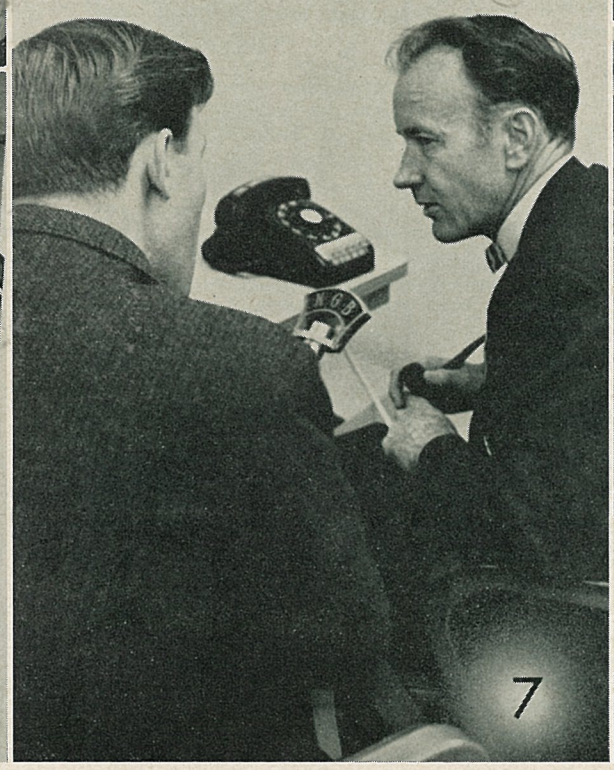

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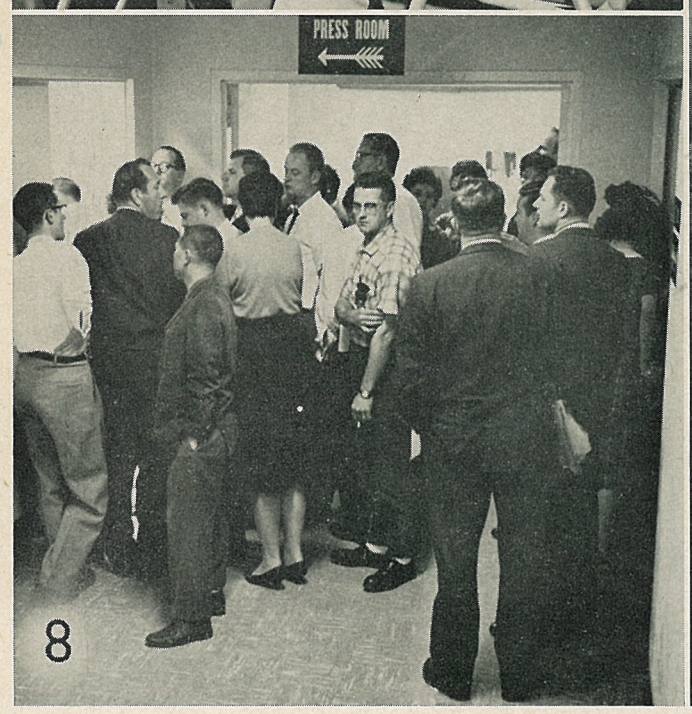

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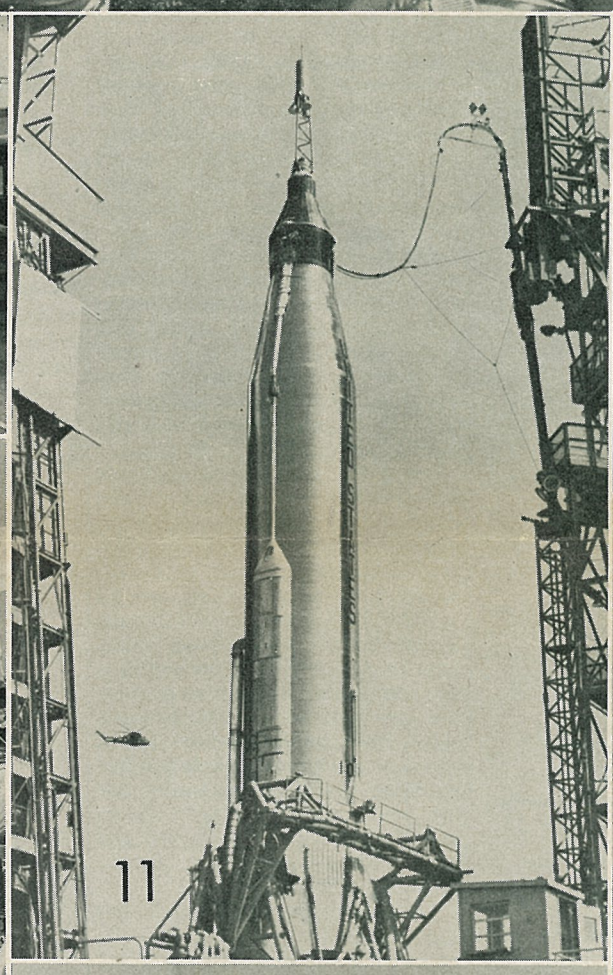

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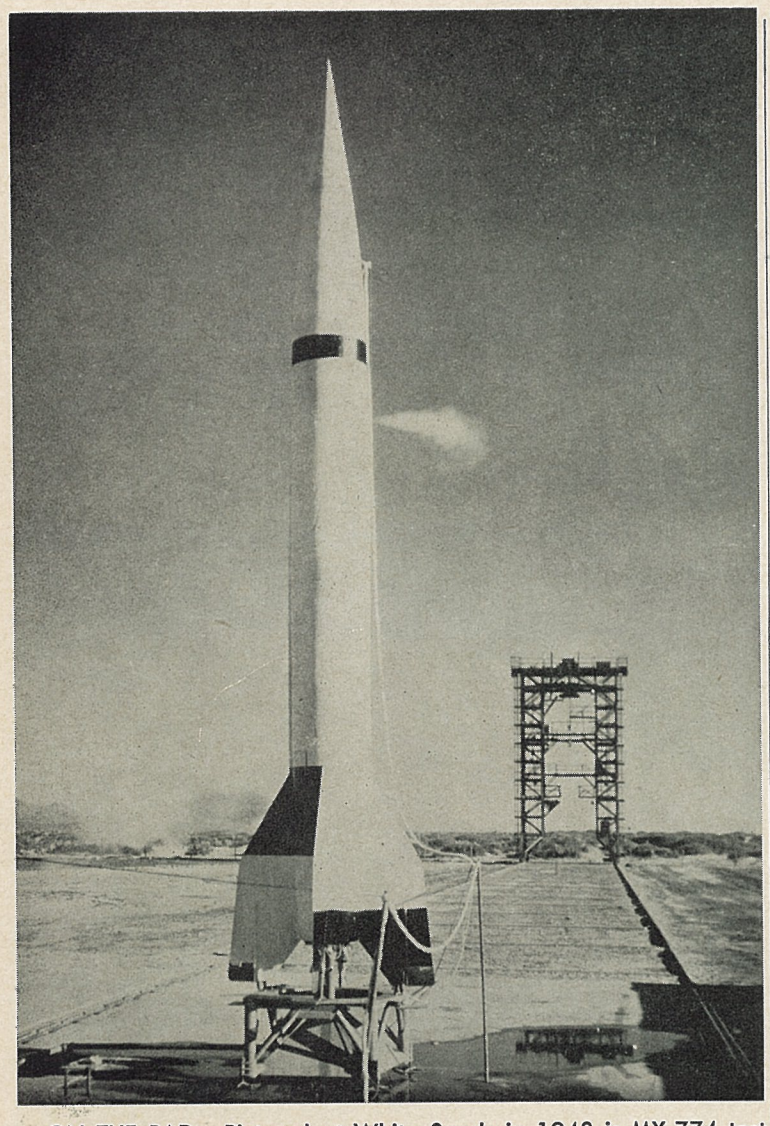

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MERCURY HIGHLIGHTS—(1) Lucky few grab look at TV during rest break at GD/Astro plant in San Diego while (2) Astronaut John Glenn was orbiting earth, put aloft by Atlas missile. (3) Glued to radio broadcast are Col. H. E. Moose, AF Plant Rep, E. C. Keefer, Fenton Miller, Mort Rosenbaum, E. D. Bryant. (4) Bryant, vice president—operations, is being interviewed for TV. (5) Tracking station on roof of GD/Astro plant picked up signals from capsule for total of 15 minutes, relaying them (6) inside plant to monitor station. (7) P. E. Culbertson, chief project engineer for Atlas space launch vehicles project management, is interviewed. (8) Although Press Room was "off limits," few got peek inside. (9) Meanwhile at Cape Canaveral K. J. "Charlie" Bossart visits with group of local students who have built own tracking station. Bossart, widely called "Father of the Atlas," led band of engineers during early development. (10) Key Astro figure in launch was Thomas J. O'Malley, shown at command post at Cape. From here he directed 100-man team that launched Atlas. (11) Atlas 109-D, shown on pad at Cape.



ON THE PAD—Pictured at White Sands in 1948 is MX-774 test vehicle, predecessor of today's Atlas.

MX-774 Study Fathered Many Missile 'Firsts'

(With this, the 78th installment, General Dynamics NEWS' history of GD/Convair products comes to a close. It is exactly three years since the series began.)

The Convair-Air Force missile MX-774 introduced a number of "firsts" in rocket development. Because the test vehicle was kept under tight security wraps, however, its features did not become widely known. Its innovations, now part of the worldwide state of the art, have sometimes been credited to other, later missiles. These firsts (for the western world at least) included:

SWIVELING MOTORS. To control the V-2 in flight, German designers employed movable graphite vanes, placed like rudders in the jet stream. This imposed a considerable loss of thrust, and also brought problems of vane erosion. Charles Bossart, MX-772 project engineer, planned a power plant of four 2,000-lb. thrust rocket motors, each swiveling independently on a different axis. Thus, pitch, yaw and roll could be controlled by moving the motors to change the direction of thrust. Reaction Motors, Inc. was induced to undertake a motor of this design in the summer of 1946, and it proved successful.

The swiveling motor had been a theoretical concept for years, but Convair's design and development of a practical working system revolutionized rocket missile control methods. (A kissing-cousin of this system was used later in the Navy's famed Viking, first fired May 3, 1949. It had a single RMI motor of 21,400 lbs. thrust, mounted in gimbals for movement in any direction. Stream jets in the external fins controlled roll.)

SEPARABLE NOSE CONE. To obtain data during test flights, the Germans used a rudimentary telemetering system. (In one period of developmental desperation, when every test missile was disintegrating near the end of its flight, they stationed engineers with binoculars in the predicted impact areas.) In addition to using telemetering, Bossart and his associates conceived the idea of severing the nose cone and parachuting the rest of the falling missile to earth for recovery of recorded data.

FEATHERWEIGHT CONSTRUCTION. Since the entire V-2 was required to re-enter the atmosphere, it was necessarily built of steel ribs and stringers, with a skin of .025-inch steel sheet. Convair designers employed aircraft-type aluminum alloys, and introduced another revolutionary concept, "integral tankage." By making the missile's skin serve also as a wall of the oxygen and alcohol tanks, tremendous weight savings were realized. (The Viking program used integral tanks starting with the third missile.)

The MX-774 launchings were staged at White Sands July 13, Sept. 27 and Dec. 2, 1948. As always in rocket trails, the engineers had disappointments. On each occasion the missile took off as expected, but suffered premature fuel cutoff during flight.

(The cause was not known for certain, but analysis of test data indicated malfunction of a solenoid valve, possibly because the mechanism was thrown into severe vibration at its resonant frequency.)

In any event, the tests attained major objectives. Flight was stabilized with swiveling motors, and in reaching velocities several times the speed of sound, the missile passed successfully through the most critical control, pressure and aerodynamic stages.

Remote guidance was not used in these tests, but the method under development for MX-774 was so promising that the Air Force contracted with Convair to continue the work.

Project MX-774 died with the last missile fired in December, 1948, but Bossart and his missionaries were not to be denied. Until 1951 Convair continued ICBM studies on a limited scale, using its own funds for research on such problems as propellant combinations, staging techniques and re-entry questions. With the outbreak of the Korean war, accompanied by increased military appropriations, attention returned to the ICBM program and in January, 1951, the Air Research and Development Command granted contract MX-1593 which later became Project Atlas and resulted ultimately in development of the Atlas missile and creation of General Dynamics/Astronautics Division.

C. C. Flagg Retires; Veteran Aircrafter

C. C. Flagg, veteran General Dynamics employee was feted by more than 100 Astro friends at San Diego last night (Feb. 27) in honor of his retirement.

Gathered at the Mission Valley Inn, those participating called the event a "Salute to Flagg." During his long career in the field of aircraft and missile work, Flagg designed and built 18 aircraft for commercial, racing and stunt use.

Flagg has been with Astro since 1961, serving as chief of procurement inspection. Prior to that time he was with GD/Fort Worth. His service includes work dating back to Consolidated Aircraft days.

Atlas Chosen In High Speed Re-entry Study

National Aeronautics and Space Administration (NASA) has announced still another role for Atlas "D" launch vehicles to play in the field of space exploration.

Called Project FIRE, the program involves high speed re-entry heat research. It will obtain data on materials, heating rates and radio signal attenuation on spacecraft re-entering the atmosphere at speeds of about 24,500 miles per hour.

Information from the program will provide the future technology required for protecting manned and unmanned spacecraft from blazing destruction upon re-entry from lunar missions. This environment cannot be duplicated in any known ground facility, NASA indicated.

Plans for two launches of Project FIRE re-entry spacecraft, each carrying different instrumentation systems, within the next two years have been announced by NASA.

Atlas "D" boosters will launch the re-entry spacecraft weighing approximately 200 pounds and a velocity package containing guidance components and the Antares solid fuel rocket motor (third stage of the Scout vehicle). After reaching peak altitude under Atlas power, the velocity package provides the additional speed and spacecraft orientation in its descending flight.

Launches are scheduled for Cape Canaveral. Recovery of the spacecraft will not be attempted. Data will be obtained by telemetry, radar and optical tracking systems.

Delta Tops Its Own Chicago-Miami Mark

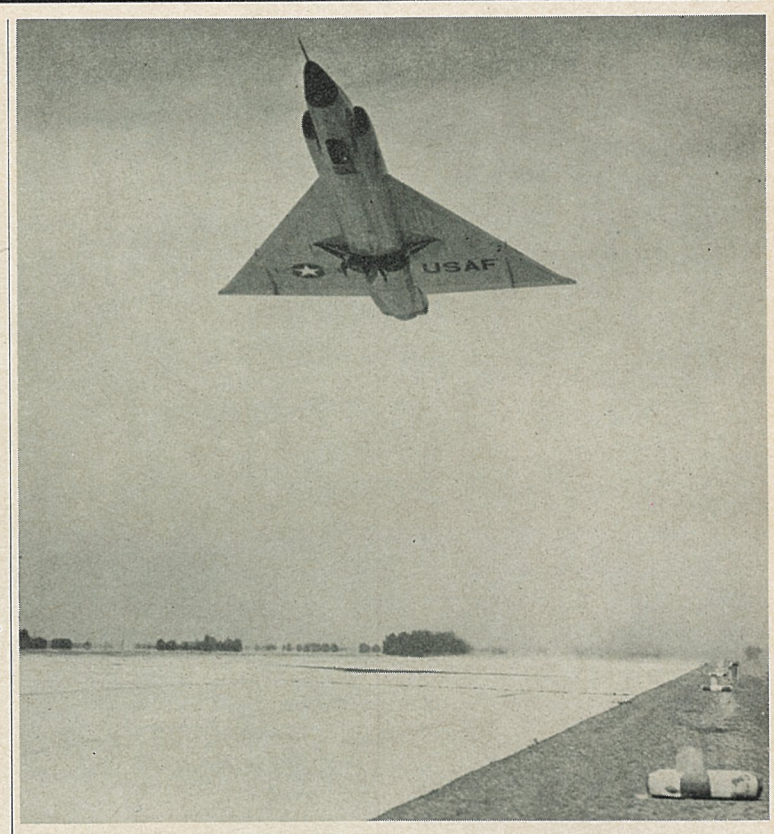
Delta Air Lines beat its own official speed record from Chicago to Miami with a Convair 880 jetliner this month.

The 880 reached a top speed of 715 miles an hour, helped by a strong tail wind, during the 1,258-mile trip. It took one hour, 50 min., 55 sec., to reach Miami International Airport from Chicago's O'Hare Field on Feb. 11.

Previous officially-timed record was two hours, one minute.



"Keep diggin' . . . "



JAPAN GUARDIAN—Editor of Japanese newspaper rode Convair-built TF-102A such as this to break sound barrier during training flight over Japan.

Practice Scramble

Japan Editor Writes Colorful Account of Flight in TF-102A

Breaking the sound barrier in a TF-102A was among experiences described by a Japanese editor in a recent article published in one of Japan's leading newspapers, Asahi Shimbun.

Quoting Mr. Kato, Asahi Shimbun editor, on his flight in a Convair-built jet interceptor attached to the 40th Fighter-Interceptor Squadron, Yokota Air Base, Japan:

"With Capt. Robert D. Goertz, pilot, I awaited 'scramble' orders, a 20-thousand yen white helmet on my head, a dark green oxygen mask on my face, a cushion that becomes a life raft in case of emergency placed on the seat, and a parachute complete with a high-altitude bail-out oxygen bottle on my back.

"We were in the cockpit for nearly an hour when the scramble orders rang through the receiver in my helmet with detailed information as to altitude and direction.

"The engine started and the canopy lowered and we headed for the runway. A few hundred feet from its start, the airplane jerked forward pressing hard on my back — the afterburner was ignited and a tremendous thrust was added.

"The takeoff speed is not necessarily very fast but the rate of acceleration is terrific.

"Immediately after we cleared the runway and while we were still ascending the afterburner was shut off. This is to comply with procedures to minimize noises over populated areas. Altitude 6,000 meters. 'Destination: Sado, receive further instructions from the radar site there,' came over the radio.

"The noise that shakes up man on the ground is hardly 'annoysome' when filtered by the earpieces and the air-conditioned cockpit gives no such sense of speed as 300 meters per second. (Ed's. Note—1 ft. equals .3048 meter.)

"There are three squadrons equipped with F-102As in Japan charged with air defense of this country.

"At every minute four planes are on alert with each of these squadrons and like the one I was in, there are always a few airborne on a training flight.

"When a radar site on the coast detects an unidentified aircraft, it notifies the Air Defense Center which in turn puts out scramble orders to the squadrons. The radar site, meantime, traces the unidentified plane and guides the fighter to its location.

"In the nose of the F-102A, there is a radar receiver for locating enemies and zeroing-in on the target. When an enemy plane is sighted by the radar a computer automatically calculates and fires the missile or rockets, the machines do the job, and man just sits there.

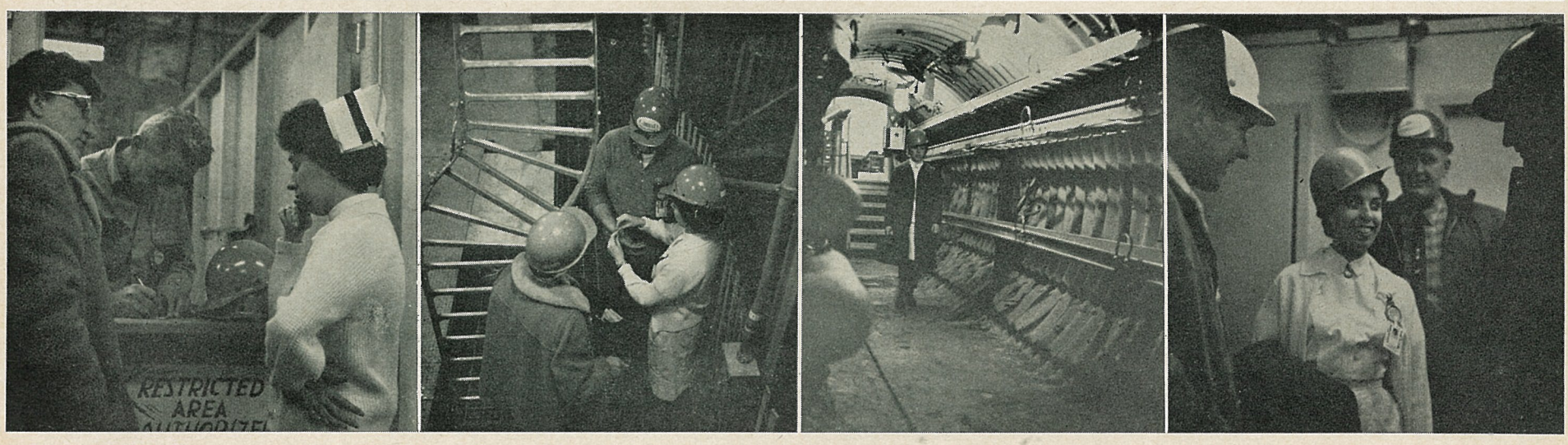
"Watching the radar screen, about 20 cm. in diameter, I found an enemy plane on the orange surface, the plane fits into the target sight, the armament is fired, and the visions on the radar screen start dancing. Even beautiful electronic patterns on the screen, hardly malicious or deadly, do not speak of fatal enemies.

"After the practice was over, we passed over Noto Peninsula, by Mt. Fuji and to Miyake-jima, where there was nothing but clouds below and dark blue skies above—altitude over 10,000 meters. 'You won't notice when we break the speed of sound,' said Captain Goertz as he ignited the afterburner. The needle on the Mach speedmeter moved up to .8, .9, and after hesitating once or twice moved past 1.0—all in a matter of a few seconds . . .

"When the plane leveled up from a steep dive, I could not lift my camera off my lap. When, after a steep ascent, the plane suddenly leveled off the aerial charts floated amid the cockpit and I could not feel the weight of my camera—all of this a result of the mischievous pranks of the G forces."

* * *

F-102As are based at Yokota Misawa, and Itazuki in Japan assigned to 5th Air Force of PACAF. General Dynamics/Convair field service representatives assigned to these bases report to Rudy Haas, area supervisor for GD/Convair field service in the Far East. Passing along the Japanese editor's impressions was James R. McMahon.



DUTY NURSE—Few nurses work in "hard hats" but sometimes it is "uniform" at GD/Astro off-site bases. At top left, Nurses Nancy Blondo and Florence Chladek check in with L. Boisley at Atlas site. Latter is transfer from Warren AFB. Second from left, Nancy pauses to administer first aid (band aid) to Tony Lucier. Next photo shows Nancy en route through tunnel to silo and at right she greets friends. Photos by John Oldenkamp.

Reflector 'Cities' Built For B-58 Bombing Runs

B-58 Hustlers and other bombers in the nation's nuclear retaliatory force are routinely "bombing" two "reflector cities" located in sparsely populated areas of the U. S.

Constructed of telephone poles on which triangular-shaped sheets of aluminum are mounted, the "cities" are located about 70 miles southeast of Rapid City, S. D., and at a site 25 miles northeast of Glasgow, Mont.

According to SAC, the reflectors can be located to give reflections on a plane's radar. Reflections can be made to resemble a bridge, warehouse, office building, river, or virtually any other type target.

Target changes within the four-mile square "cities" are made by altering the angle of the reflectors. Each reflector city has about 180 25-foot telephone poles planted a certain distance apart. Each pole has two reflectors, one for high-altitude practice and one for low-level.

Accuracy on the simulated release of a bomb is measured by a radar bomb scoring unit located nearby. Radar bomb site (RBS) devices "lock on" incoming bombers and track them on a plotting board.

Just before simulated release of a bomb, the aircraft transmits a radio tone signal to the RBS site. By stopping the tone, the aircraft crew indicates its point of release of the simulated bomb. This is plotted on the RBS board with maximum accuracy.

16 GD/FW Men Earn Masters

A total of 16 General Dynamics/Fort Worth employees received advance degrees in the Southern Methodist University Graduate program Jan. 23. Employees and degrees received are:

Masters in engineering (electrical): R. R. Bauerlein.

Masters in engineering administration: D. R. Aertker, C. D. Little, A. J. Pentikis and R. E. Purnell.

Masters in aeronautical engineering: E. G. Clifton and R. M. Walker Jr.

Masters in civil engineering: L. I. Guidry and S. D. Manning.

Masters in electrical engineering: J. A. Coker, J. R. Forester, W. J. Fuhrman and A. E. Soniat Jr.

Masters in mechanical engineering: K. L. Cornelius, H. E. McDill and G. A. Wiley.

All employees are Dept. 6 except Wiley, who is in Dept. 85-2.

DYNAMICS SPEAKERS ON METALS SEMINAR

Two General Dynamics specialists will be among speakers at a four-session educational seminar on thermo-electric devices sponsored by American Society for Metals, San Diego Chapter.

Lectures will be March 1, 6, 8, 13 at Solar auditorium, 2200 Harbor Drive, at 7:30 p.m. A nominal charge will be made.

Dr. Robert Pidd and Dr. Park Miller of General Atomic are slated to give two of the talks on advanced means of converting heat into electricity. Other speakers will be Dr. Leonard Grossman of General Electric Co. and J. J. Connolly of the Office of Naval Research.

Further details may be obtained from Jerry Langford, GD/Convair, ext. 2492, Plant 1, and Ernie Mikus, GD/Astronautics, ext. 737.

GD/FW Men Discuss Automation Impact

E. L. Magers, industrial relations representative, and J. E. Wilson, industrial relations analyst, at General Dynamics/Fort Worth, were speakers at the recent fourth annual institute of the International Association of Personnel in Employment Security.

Magers spoke on "Impact of Automation Upon Industrial Relations." Wilson's speech was "Reemployment of Workers Displaced by Automation."

Stanley Office Is Realigned

Realignment of the General Dynamics/Fort Worth resident office at Stanley Aviation was announced recently by President Frank W. Davis.

B. L. Woolfolk is manager-GD/FW resident office at Stanley, reporting to R. Kahn, subcontractor operations manager.

H. F. Wiseman is assigned as subcontract management production specialist, responsible for coordinating all activities associated with manufacturing and delivery of B-58 capsules.

Oscar Wehmanen is project engineer, responsible for coordinating GD engineering activities, including design, testing, handbooks and reliability.

E. Cartwright is assigned as quality control specialist, while C. B. McWilliams is manufacturing control specialist.

Two More B-58s Fly to Peru

Production Hustlers No. 94 and 95 were delivered to 305th Bomb Wing at Bunker Hill AFB this month, increasing to 30 the number of B-58s on hand at the Peru, Ind., base.

Sorties of about four hours duration were flown on each of the delivery flights.

A crew of Capt. D. J. Hall, pilot; J. W. Colford, navigator; and 1st Lt. R. J. Panek, DSO, ferried No. 94. A supersonic sprint was included in the flight.

No. 95 was delivered by a crew of Capt. W. E. Hale, pilot; Capt. D. D. Dckey, navigator; and 1st Lt. G. P. O'Connor Jr., DSO. Another B-58—either 92 or 96—was also slated for delivery to Bunker Hill in late February.

MULTIPLE WEAPON B-58s DEMONSTRATE OVER TWO FRONTS

Flight demonstrations on two B-58s modified to multiple-weapon configuration began on separate fronts this month.

A crew of over 30 GD/Fort Worth maintenance and engineering personnel accompanied B-58 No. 38 to Kirtland AFB, N. M., where testing is slated to run through late 1962.

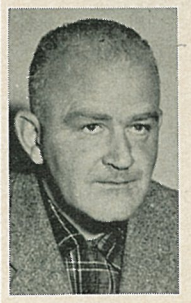
A series of loads tests was completed on No. 42 at GD/Fort Worth, following a pair of shakedown flights.

While conducting multiple-weapon drops, the two planes will be used to wind up the few remaining drops in the two-component pod program. Crew for No. 38 is comprised of Fred Voorhees, pilot; Fred Hewes, navigator; and Kem Timpson and O. D. Lively, alternating as DSO. The crew made an upper component drop over White Sands Missile Range early in February, then followed up with two multiple-weapons drops from Albuquerque later in the month. Only one of the four additional bombs—in each case from an aft position—was dropped on these runs. Another flight to obtain stability and control data was completed on No. 38 this month.

Virtually every combination of drop, from various altitudes and through a wide range of speeds, will be undertaken with No. 38. All flights were run "as predicted," and were considered successful.

Laven Heads Corp. Office at Geneva

Ted Laven this month was appointed manager of the General Dynamics Corporate Office at Geneva, Switzerland, by President Earl D. Johnson.



Ted Laven

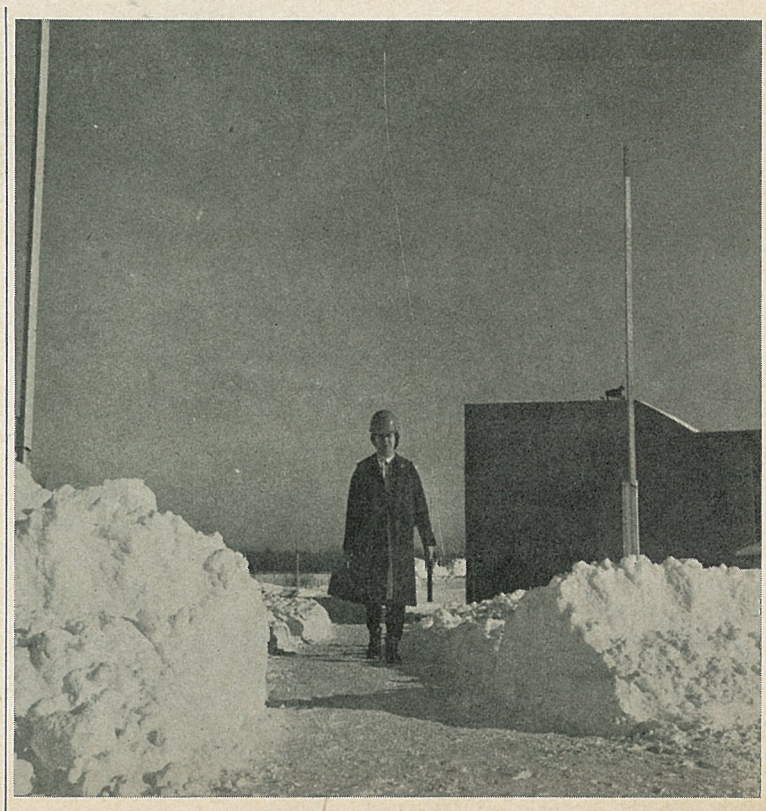
A veteran "expatriate" who has spent more than a dozen years abroad for the company, Laven will be responsible to C. L. Meador, vice president-contracts, for commercial sales activities; and will report directly to K. M. Smith, vice president - program development, for military relations activities.

GD/FW's Safety Mark Lowest of Big Firms

General Dynamics/Fort Worth has won group A aeronautic award in annual competition sponsored by Texas Safety Association, Chief of Safety Fred Temple was notified last week.

"The award is based on frequency rate of disabling injuries during the year," Temple said. "We had the lowest in the state for firms with over 500 employees."

Award will be made to B. G. Reed, GD/Fort Worth vice president-operations, at a March 27 luncheon in Dallas' Adolphus Hotel. Temple is in charge of a general industries program in connection with the award.



OFF TO WORK—Nurse Nancy Blondo, typical of medical staff members at far-flung GD/Astro bases, is shown en route to launch control center at Plattsburgh AFB site.

Nursing Network

Despite Isolation, Medical Aid Always Near at Atlas Bases

No matter how remote their duty stations, General Dynamics/Astronautics folk on the job activating Atlas missile bases are close to prompt medical attention.

Routine first aid may be administered by an Astro registered nurse. Serious cases call for the services of a doctor or hospital in a nearby community. Readily available are ambulances.

The three—nurses, doctors and ambulances—form the backbone of a unique medical support organization created by Astro. It has been in operation since activation work began and is currently centered at six hard (or silo) bases.

(Test bases also boast outstanding medical support, although organized somewhat differently from operational bases.)

Astro employees have compiled remarkable safety records in activation work, despite potentially hazardous conditions. Extremely low accident ratios have resulted. However, accidents do occur. Cut fingers, eye irritations, etc., are the most frequent.

Treating them are registered nurses, 15 assigned to each base. Under a head nurse, they man first aid stations at every launch complex and at the main base as well.

Assignment as a site nurse has its challenges. In early construction phases the temporary first aid station may be set up in a shack, lacking adequate heating and plumbing. But the site nurse adapts and learns to improvise, until a permanent station is provided.

While treatment usually is at the first aid station, the site nurse must know every detail of the launch complex. To be prepared in case of sudden need, she must know the location of all emergency equipment and how to reach any part of the site quickly.

As sometimes the only women to visit a site, the nurse may have to be "house mother" as well.

"They have been known to mend torn clothing as well as bodies," Head Nurse Norma Dutch at Plattsburgh recalled.

Astronautics does not assign a doctor to each base. Instead, it makes arrangements with local physicians or base medical units.

Ambulances are either from near communities or assigned to the complex, if no local services are available. Many sites are so remote a fleet of Astro-operated ambulances is necessary to fill base needs.

Dr. A. J. Bellanca, Astronautics chief physician, administers the entire program.

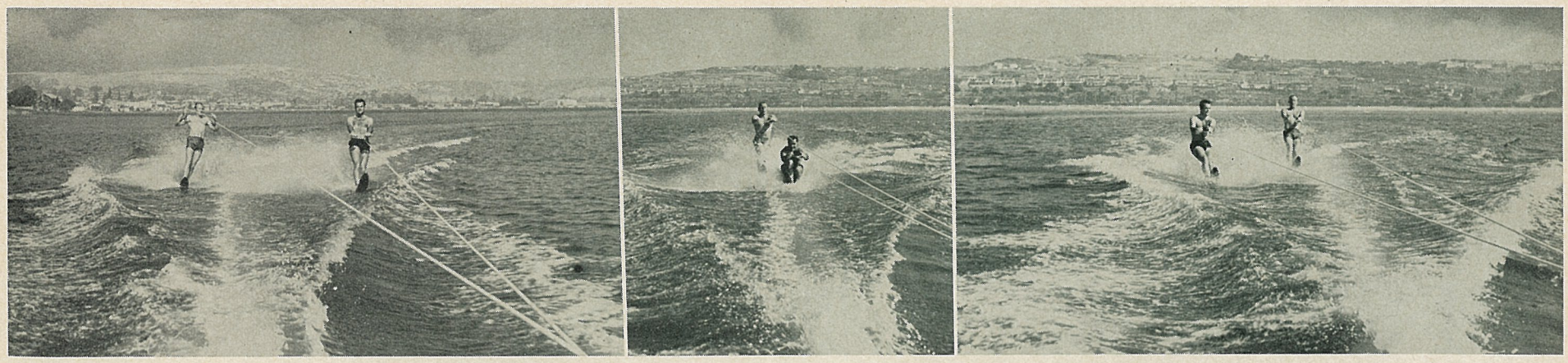
"We are fortunate in having teams of skilled and dedicated nurses," Dr. Bellanca said. "We transfer nurses from base to base as activation is completed, or else hire experienced nurses locally."

Wives in Top Posts Of Scouts Council

Three General Dynamics Corporation wives are filling top posts in the San Diego County Council of Girl Scouts for the coming year.

Mrs. Florence Kincaid, wife of GD/Convair's G. J. Kincaid, in liaison engineering, is newly-elected president of the Council.

Serving with her are Mrs. Mildred Lawson, as second vice president, and Mrs. Mary Alice Farnsworth, third vice president. Mrs. Lawson's husband, L. G. Lawson, is tooling inspection supervisor at GD/Convair. Mrs. Farnsworth is the wife of F. R. Farnsworth, GD/Astronautics engineer.



WARMING UP—In preparation for opening Astro ARA Water Ski Club season club president Jack Wachalec and ARA Commissioner Bill Johnson demonstrate tricky cross-over maneuver on Mission Bay. At left, Wachalec lifts tow rope as Johnson approaches. Center, it's down and under for Johnson, who emerges on other side in photo at right. Regular water skiing schedules for both Astro and Convair clubs will start within few weeks.



GROUNDED—Craft of CRA Aeromodelers found 30 mph wind and rain a little too much for good flying Feb. 11 at Hourglass Field. In shot, taken by Fudo Takagi of Plant 2, spectator watches Carol Mooney attempt to launch husband's French delta wing fighter as Walt Mooney (Dept. 6) tests wind's strength. Meet is rescheduled for this weekend.

Model Aircraft Meet Reset As Rain, Wind Block Trials

Aeromodelers will have a chance at a repeat performance of their annual free-flight scale contest, originally set for mid-February.

Rain and wind blew out the flying portion of competition on Feb. 11, which followed Saturday night judging. So, the entire contest has been rescheduled for this coming weekend, March 3-4, said Gene Whigham, CRA commissioner.

Eighteen plane models were entered in the judging at CRA Clubhouse, reported Don Larsen, club president. Since rescheduling, several more modelers are planning to enter.

Competition is open to all General Dynamics modelers in the San Diego area and members of the San Diego Orbiteers.

Judging will take place Saturday (March 3) at CRA Clubhouse, 7 to 10 p.m. and flying the next morning at Hourglass Field, north of Miramar NAS on Highway 395, from 8 a.m. to 1 p.m.

Classes remain unchanged with all entries judged in a combined senior-junior class.

Prizes will go to first, second, and third places; sweepstakes winner; best World War I airplane; best World War II fighter; best low-wing aircraft; best jet; best woman's entry.

There is no limit to number of entries by any one person.

Capistrano To See Guard

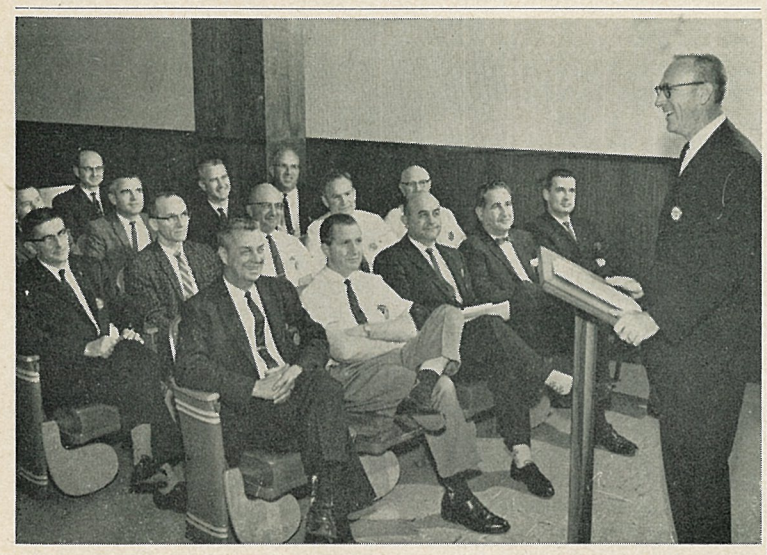
After taking a top award in a recent Arizona event, Convair's mounted Color Guard moves on to appearances nearer home.

Color Guard riders will be seen in the "Fiesta de la Golondrinas" parade at San Juan Capistrano on Saturday, March 17. This annual affair welcomes the swallows back to the San Juan Capistrano mission.

Members of the CRA Riding Club and their families are invited to join in other activities during the celebration, including a six-hour trail ride on Sunday.

The CRA Color Guard won second place at the Silver Spurs Rodeo held in Yuma, Ariz., earlier this month.

Regular meeting of the Riding Club will be tomorrow evening (March 1) at Gillespie Field Clubhouse, 7:30 p.m.



NEW TECHNIQUES—E. W. Feddersen, General Dynamics director of manufacturing engineering, explains European fabricating techniques during series of lectures held weekly for GD/Convair manufacturing supervisors.

League Volleyball To Begin in March

League volleyball for both Convair and Astro players begins in mid-March.

Teams will be accepted from both divisions and formed into leagues, said Pete Beyrer, CRA commissioner, who is heading arrangements for both Convair and Astro play.

Volleyball teams from both divisions should be registered with Beyrer, ext. 1245, Plant 1, GD/Convair, as soon as possible.

Astro players who wish to form an Astronautics varsity team are asked to contact George Voget, Plant 2, ext. 1331.

Cactus Country Slides Slated

CRA Rockhounds will see a color slide travelogue of "Cactus Country" at their March 8 meeting, 7:30 p.m., Gillespie Field Clubhouse.

Virginia and George Forbes will show scenes taken during a tour of Southern Arizona, said Dan Whorton, CRA commissioner.

Next scheduled field trip for the rock hunters will be to Kramer Hills, near Victorville, over the weekend of March 10-11. Search will concentrate on specimens of moss agate, jasper agate, and petrified palm.

Jim Sugg, club president, reminded those making the trip that it will be a dry camp. Water and digging tools should be carried. Maps with directions for reaching the site will be sent to all members.

Anyone wishing details may contact Harry "Smokey" Kinghorn, field trip chairman, at ext. 1648, Plant 1.

BARBARA PROPPE WINS FOIL TITLE

GD/Astro daughter Barbara Proppe of ARA-CRA Fencing Club recently teamed with members of another local fencing organization to form a San Diego State College women's foil team.

In their first competition, the UCLA Intercollegiate Fencing Tournament in Los Angeles Feb. 17, the team placed second. Barbara won the women's individual foil championship.

Finals were directed by Jan Romery, Olympic contender and national champion, who presented Barbara with the Romery Medal for "best form" in fencing.

Dan Jones, Convair son, and also a member of ARA - CRA club, finished second among men in a Feb. 18 tournament sponsored by UCLA.

Skiing Schedules Awaiting Demand

As spring skies clear, water skiers at GD/Convair are making plans for weekly water-skimming on Mission Bay.

Skiing parties are arranged now on a phone-call basis, said Gene Sevigny, CRA commissioner. Usual location is off Santa Clara Point, 9 a.m. until noon.

However, as soon as enough skiers indicate a desire to begin regular weekend skiing, schedules will be set up. Sevigny may be reached at ext. 2779, Plant 1.

Precocious

Pomona Training Specialist Built TV Receiver at Age 11

Early day television broadcasting was mostly hard work, with a few minor perils thrown in for good measure, but it was also fun, Geoffrey C. Knight, training specialist at General Dynamics/Pomona, recalls.

Knight, then an employee of Baird Television Ltd., helped install England's first television station for the British Broadcasting Company in 1936, and worked with the station—later as an employee of BBC—until it was closed at the start of World War II.

The Baird company was founded by John L. Baird, British scientist who is officially credited with producing the first successful television broadcast in 1924, Knight said. The company and EMI Marconi were selected to install two different types of broadcasting equipment for BBC, at Alexander Palace in West London. Baird installed an electro-mechanical system, while the Marconi system—which was eventually adopted—was strictly electronic. At first, however, the two systems were alternated, with one being used one week and the other the next.

"Our system was rather complicated," Knight said. "First the program was photographed with a movie camera, using regular black and white movie film. The sound track was recorded right on the film. Then the exposed film was fed through a high speed developing tank, directly from the camera, and 35 seconds later the developed film, still wet, was scanned by a mechanical scanner.

"This made a rather bulky piece of equipment, and also a noisy one. For these reasons, the camera was placed in a separate room and programs were shot through a double plate glass window.

"The tops of the developing and fixing solution tanks fit rather loosely, and the film, moving through the tanks at high speed, would splash these highly caustic solutions about the room. After a few cases of burns and ruined clothing, the cameramen started wearing wading boots and rubber aprons."

The BBC station was closed in September, 1939, with the outbreak of war in Europe.

Experimental television broadcasting was started in England during the 1920s, and Knight created something of a sensation in England when, at the age of 11, he built a successful TV receiver. One of the largest newspapers in the country published a series of feature stories on him.

Sports Car Tickets On Sale With CRA

Discount tickets for the coming Custom Rod-O-Rama and Sports Car Show, March 1-4, are available at GD/Convair employee services.

Tickets are good for a 50-cent reduction on general admission price of $1.50.

The four-day show will be held in Electric Bldg., Balboa Park, 6 p.m. to midnight on week days; 11 a.m. to midnight, Saturday and Sunday.

GARDEN LECTURER TO ADDRESS CLUB

Joe Littlefield, popular gardening lecturer and consultant, is scheduled to address the CRA Garden Club's March 14 meeting at 7:30 p.m. in the Floral Association Building, Balboa Park. He will speak on landscaping, and there will be a question and answer period. Visitors are welcome.

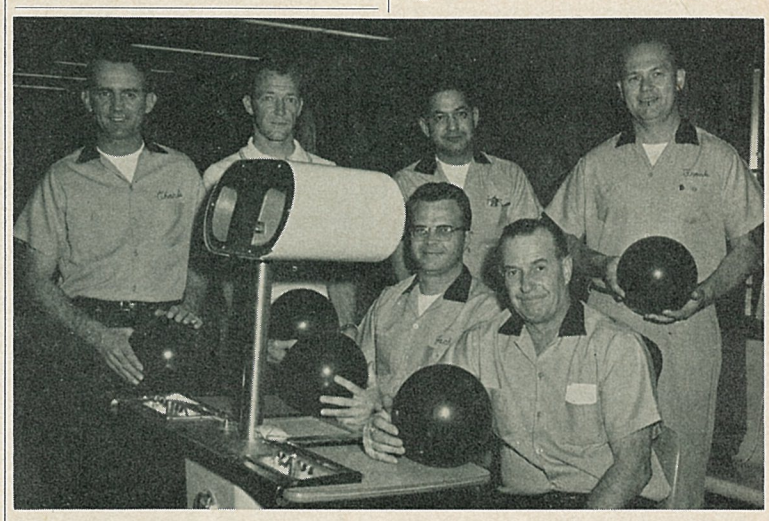
Holloman Keg Team Leads High Scorers

Keglers of GD/Convair's entry in the Industrial League at Alamogordo, N. M., have swept the field to hold all of the high scores in the league.

Delta Darts, all from Dept. 313 at Holloman AFB, have garnered all honors at one time in the hotly-contested league, though standing in third place.

They now hold: high team three-game series, handicap,, (2,956); high team three-game series, scratch, (2,763); high team game series, handicap, (1,092); high team game series, scratch, (1,000).

Rolling individual high scores were Frank Roeder, both high single game handicap (287) and scratch (263); J. H. Weaver, high three-game series, handicap, (691); G. N. Rhodes, high three-game series, scratch (650); and high individual average (190).



HOT KEGLERS—GD/Convair bowling team at Holloman AFB, N.M., now holding all scoring honors in league are (standing, from left) C. E. Benham, R. I. Johnson, J. R. Martinez, F. E. Roeder. Seated are J. H. Weaver and A. J. Maracchini, captain. G. N. Rhodes was not present for picture.

Sports & Recreation

'Pants Seat' Rally Open To All Area Drivers

Registration for the fifth annual "Seat of the Pants" rally, sponsored yearly by CRA Sports Car Club, is open now to all sports car enthusiasts in the area.

At least 250 fans are expected to take part in the March 25 rally, said C. G. Farnsworth, rallymaster, who is heading arrangements for this year's event.

The "Seat of the Pants" rally, one of the two big CRA-sponsored sports car events of the year, is open to all GD/Convair, GD/Electronics people, their immediate families, and to all other sports car drivers or navigators.

"Convair's 'Seat of the Pants' rally is becoming more popular every year," said Farnsworth. "We expect at least as big a turnout as at our other big event, the Field Day at Brown Field last November, which was an overwhelming success.

"We especially would like to see a good crowd of contestants from GD/Convair and GD/Electronics. The rally was originally planned for company enthusiasts and we urge all to take part."

Forms now are available at CRA offices. Registration fees for guest classes are $1 for pre-entry, postmarked before March 19, and $1.50 for post-entry. There will be no charge for GD/Convair or GD/Electronics entries.

For additional information call Farnsworth, ext. 615 or 1778, Plant 1, or HU-8-0132 evenings.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

★ ★ ★

AEROMODELERS — Free-flight scale contest rescheduled March 3-4. Regular meetings first and third Thursdays. Call Don Larsen, ext. 2289, Plant 1.

ARCHERY — Open "Arrow Shoot" March 11, Balboa Park Field Range. Registration, 8:30-9:30 a.m.; competition, 9:45 a.m.

BASKETBALL — Shop league play Thursday and Friday nights, Muni Gym, Balboa Park.

BOWLING — Entries open to March 17 for Annual Convair Championship Tournament. Forms at employee services.

BRIDGE—Weekly session each Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Meeting March 12, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play every Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

FENCING—Workouts and instruction each Friday night 7-10 p.m., YWCA, Tenth and C Sts.

GARDEN CLUB — Meeting Wednesday (March 14), 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — CRA sweeps March 3-4, Circle R course.

GUN CLUB — Regular shoot Sunday (March 4), Gillespie Field Range. Open shooting Wednesday and Friday evenings.

ICE SKATING — Skate night Thursday at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics people, 6:30-8 p.m.

PISTOL CLUB — Next shoot March 11, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (March 1), 8 p.m., Harbor Drive headquarters.

RIDING CLUB — Meeting tomorrow (March 1), Gillespie Field Clubhouse, 7:30 p.m.

ROAD RUNNERS — Open board meeting March 15, Gillespie Field Clubhouse, 7:30 p.m. Weekend trip to Yaqui Pass, March 16-18.

ROCKHOUNDS — Meeting March 8 Gillespie Field Clubhouse, 7:30 p.m. Field trip to Kramer Hills March 10-11.

SOLO FLYERS—New ground school course now open Wednesday evenings, 7:30 p.m., Jim's Air Service, Lindbergh Field. Call Rex Robinson, ext. 2265, Plant 1.

SPORTS CAR CLUB—Entries open to annual "Seat of Pants" rally, March 25. Forms at employee services.

SQUARE DANCING — Refresher course Thursdays, 8 p.m.; advanced, intermediate classes each Tuesday 8 p.m., American Legion Hall, 4061 Fairmount Ave.

SWIMMING — Free family swim night Saturday (March 3), Mission Beach Plunge, 7-9 p.m. Tickets at employee services.

VOLLEYBALL — League play starts middle of March. Register teams with Pete Beyrer, ext. 1245, Plant 1.

Bishop Tops Expert Class

CRA Commissioner Ash Bishop stepped into the winners' circle at Pistol Club matches this month, taking a first and a fourth.

He shot 284 to take top spot in the expert class of the .22-cal. Police Course in Feb. 11 competition. His 245 was good for fourth in the center-fire Short National Match.

Other top-notchers were: master class—Carl Hornburg (Dept. 139), first, 295; Jim Halfacre (Dept. 180), second, 291; W. G. Walker (Dept. 6), third, 284; Vern Mardis (Dept. 34), fourth, 284.

E. E. Bickar (Dept. 215) trailed Bishop in second spot in expert class with 277.

Halfacre won the Short National with 265. Mardis was second with 261; Hornburg, third, 252.

Speech Contest Ends For Toastmistresses

The annual speech contest of Delta Toastmistress Club ended Feb. 13 with Catherine Whelan judged best speaker.

She will compete with other club winners at the West area level March 9.

Others taking part in club competition were Lee Betts, wife of Lester Betts, GD/Convair Dept. 4-0; Carolyn Boles, and Cleo Fletcher. Virginia Reynolds of GD/Astronautics Dept. 592-2 was speech contest chairman.

Delta Toastmistresses meet regularly the second and fourth Tuesdays in the Convair executive dining room at 7:30 p.m. Any General Dynamics women interested are invited to attend.

Further information may be obtained from Delta president, Martha Woodberry, ext. 1245, GD/Convair Plant 1.

Industrial Nurses Install Officers

General Dynamics employees were installed as officers of the San Diego Industrial Nurses Association in ceremonies last month.

New president of the group is Mrs. Lorna Payne, GD/Convair; with Mrs. Lorene Miller, GD/Astro, vice president; and O. O. Bowles, GD/Astro, treasurer. Installing officer was Mrs. Helen Werdelman, GD/Convair.



ARROW SLINGERS—Above are few of General Dynamics archers expected to compete in CRA "Arrow Shoot" in San Diego March 11. Shot was taken during meet at Pomona. Back row, (from left) are Eddie Barton, PRA Commissioner E. J. Dahlstrom, both GD/Pomona; Dick Hart, GD/Convair; Von Bateman, Louis Diaz, Al Jennings, all GD/Pomona; CRA Commissioner Al Phipps; front row (from left) Mona Dahlstrom, Marcia Bateman, Kathy Duncan, (Miss Archery of California), Millie Jennings, H. D. Barton, all GD/Pomona, and Harry Ross, GD/Convair.

Deadline Set For '62 Bowl Championship

Top bowling event of the year for CRA keglers, the annual Convair championship tournament, will swing into action the last weekend of March at Pacific Recreation.

Deadline for entering has been set for March 17, said Commissioner Jim Hayman. Entry blanks now can be picked up at GD/Convair employee services, Bldg. 32, Plant 1; from Hayman, ext. 1155, Plant 1; from Mike Brooks, co-commissioner, HO-9-8793; or at Pacific Recreation.

Tourney events will include men's or mixed teams; doubles, men's, mixed, or women's; and men and women singles.

Team entries must be a complete five-person team, either men or mixed, said Hayman. There will be no entirely women teams in competition.

Thirty-one trophies will go to high scorers. Fifteen are allotted for individuals on top scratch, handicap, mixed handicap teams; eight will go to double high performers in men's scratch and men's handicap, mixed or women's scratch and handicap; four to high individual man scratch and handicap, and high woman scratch and handicap.

In addition, four all-events trophies are set aside for the men and women with high accumulated scores in scratch and handicap play throughout the tourney.

For further information contact Hayman.

Substitutes Needed For Kegling Teams

Substitutes are needed for the current CRA bowling season, said Commissioner Jim Hayman.

Any bowler at GD/Convair or GD/Electronics wishing to sign for either day or swing leagues will be placed on one of the teams and have a chance to bowl regularly through the remainder of the season. Season ends the first part of April.

Ten leagues are bowling at following lanes: Mission Valley Bowlero, Tuesdays; Frontier Lanes, Wednesdays and Thursdays; Pacific Recreation, Wednesdays; University Lanes, Tuesdays; Victory Lanes, Thursdays; Clairemont Bowl, Mondays; Tower Bowl, Fridays; and two swing-shift leagues. In addition, the fire department league is in play.

For spots, call Hayman, ext. 1155, Plant 1.

Chess Players Vie In CRA Clubhouse

CRA Chess Club now is holding regular meetings and play each Wednesday evening in the CRA Clubhouse, reported Pete Beyrer, CRA commissioner.

Four Divisions Sending Archers to Tourney

Bowmen from at least four General Dynamics divisions are expected to be on hand for the March 11 open "Arrow Shoot," sponsored by CRA Archery Club.

Archers from Pomona, Astronautics, Convair, and Electronics divisions of the corporation are invited to compete for the top-grade fiber glass arrows going as prizes in the first merchandise shoot. The competition takes the place of the annual CRA trophy shoot, said Al Phipps, CRA commissioner.

At least 100 archers are expected to register at shoot time at Balboa Park Field Range on the Sunday meet date. Registration will be from 8:30-9:30 a.m. Competition will start at 9:45 a.m. at the San Diego range.

A dozen arrows will go to adult winners in each class. Juniors and intermediates will be awarded trophies.

The shoot will consist of 56 targets, 28 field and 28 hunter. There will be 24 classes—five men's and five women's in both NFAA barebow and freestyle; boys and girls, 12 years and under; boys and girls, 13 to 15.

A blue NFAA classification card is a must, reminded Phipps. Otherwise, those without a card are placed in the top class.

"The shoot will end in plenty of time for competitors from out of town to be well on their way home before dark," he assured.

In other archery programming for the near future is finalization of an all-General Dynamics tourney, spearheaded by the CRA group. Phipps has so far received favorable replies to such a tournament from archers at GD/Pomona, GD/Fort Worth, GD/Convair, and GD/Electronics and GD/Telecommunication people located at San Diego and Rochester.

Firm details will be worked out as soon as weather conditions permit with start of tourney play some time this spring.

Rose Canyon Defeats Jets

Rose Canyon team defeated 990 Jets to win first round of GD/Convair shop league basketball in the Feb. 9 final game.

The Rose Canyon men dropped 990 Jets by 32-28.

In other games winding up first half of the season Dept. 25 took Space Science, 32-26. Electronics defeated Servo, 36-20.

First-round winners went on to snow under Space Science by a wide margin in initial second-round tilts, 44-21. Electronics beat Dept. 25, 28-26; 990 Jets won over Servo, 36-18.

This week Dept. 25 will meet 990 Jets tomorrow night (March 1) on Muni Gym Court 3 at 6:50 p.m. Space Science will play Electronics the next night (Friday) on Court 2 at 6:50 p.m. and Servo and Rose Canyon will play on the same court the same night 9 p.m.

Club to Hold Annual Golf Tournament

GD/Convair's Management Club will hold its seventh annual golf tournament March 31 at Bonita Country Club, 18 holes medal play with no entry fee and prizes for low scorers.

Russ Davis, club golf chairman, said that all current members and all who were club members in 1961 are eligible to play. Available tee times and phone number to call for reservations will be announced later.

Convair Nine Eying Title

Convair baseball team was within a game of the Industrial League championship after downing Oceanside, 8-4, in the first play-off tilt Feb. 18.

They could cinch the title with a second win in the two-out-of-three windup. If weather permitted, Convair and Oceanside teams were to play their second game last Sunday.

Pitcher Eddie Moraga of Convair's nine allowed only 10 scattered hits during the game at Oceanside.

Convair won the right to vie for the championship after emerging first-half winner in the six-team league. Oceanside was undefeated in the second round, squeezing by Convair 1-0.

Other ball teams in the league were Astronautics, Rohr, National City, and Lemon Grove.

HINES' 74 GROSS TOPS CRA MATCH

A 74 fired by Wayne Hines (Dept. 140) took low gross in the CRA golf tournament played Feb. 10-11 over the Coronado fairways. Trailing him in the 0-13 handicap class was Ralph Long (Dept. 223) with 77.

Jerry Swarts (Dept. 48) tallied 70 for low net followed closely by Russ Davis (Dept. 223) with 71.

In the 14-21 bracket, Lou Grant (Dept. 8) scored low gross with 87. Bill Whitley (Dept. 6) placed second with 89. Low net scorers were George Krings (Dept. 48) with 68 while Carl Bieberdorf (Dept. 6) came close behind with 69.

The 22-and-up handicappers were led by Paul Hood (Dept. 120) with low gross of 92. W. D. Trepanier (Dept. 401) took second-place honors with his 95. Low net winners were Bob Wintringer (Dept. 2) with a 68, and Paul Bieberdorf (Dept. 14), 70.



CLOUD HOPPING—Bob Runnalls of GD/Convair snapped spectacular shots of Swiss Alps, and Matterhorn, with 35mm. camera from Swissair 880-M en route from Hong Kong on leg of 30,000-mile tour checking performance of Convair jetliners in service. Center photo shows Swissair plane being fueled on let-down at Geneva.

Convair Jet 880-Ms Prove Gluttons For Work on Routes Around Globe

Convair 880-Ms are proving the workhorses of the Oriental and European airlines using them since last summer over wide-flung routes extending from mid-Europe to Far Eastern points.

"They all like the Convair 880-M and are extremely pleased with its reliability," reported R. L. Runnalls, General Dynamics/Convair airline performance engineer, after 30,000 miles round the world surveying 880-M operators.

Japan Air Lines is flying three of the Convair jetliners from Tokyo on its Southeast Asia routes. Civil Air Transport of Formosa was first airline to put an 880-M into passenger service in mid-summer of last year. CAT's 880-M flies routes connecting Korea, Japan, Okinawa, Taiwan, Hong Kong, and Thailand.

Swissair has had two 880-Ms flying from Zurich and Geneva to the Middle East and Far East since late last summer. The Convair planes have been doing yeoman service, each flying the thousands of miles from Switzerland across almost half the world to Bangkok and Hong Kong and return.

Other airlines now operating 880-Ms are Viasa of Venezuela, Alaska Air Lines, and Federal Aviation Agency. Cathay Pacific Airlines of Hong Kong expects to put an 880-M into service this spring.

"Crew praise for the 880-M was extremely flattering!" said Runnalls. "And reliability record is gratifying.

"For instance, CAT has marked up one stretch of five weeks of non-mechanical delayed flying."

CAT maintenance of its 880-M must be considered a prime factor in their delay-free operations, he continued.

"I was impressed with the drive, general attitude, and even ingenuity, of CAT personnel in this one-jet airline.

"CAT advertising of their 'Mandarin Jet' is more thorough than the most ambitious American Madison Avenue types could ever conceive. Posters proclaiming the 'Oriental Palace Luxury' of the CAT Convair are found in places that would challenge the ingenuity of a seasoned American circus billboard expert! Once aboard, a passenger finds the palace promise fulfilled as he is attended by four Chinese 'queens,' usually called stewardesses."

Japan Air Lines engineering and operations personnel welcomed the visit of Runnalls and the General Electric Co. representative, Ed Uhler, who accompanied him to Orient ports of call. During his customer contacts, Runnalls rides jump seat to observe Convair craft in actual operation; furnishes updated technical information; gathers data on flight characteristics and performance, together with customer reaction.

"JAL people were most cooperative and gave invaluable assistance during our stay in Tokyo," he said. "Japan Air Lines' load factors on the 880-M are excellent."

Cargo as well as passengers is big business in the Orient, observed Runnalls.

"The variety of cargo is unbelievable. Stacks of gold bars (unwrapped and unboxed) are seen neatly piled on the tarmac near the bin doors as well as melons, crates of fruit, jugs of sake.

"I understand that passenger loads are restricted at times due to full maximum weight high priority cargo loads on long-range flights."

One enterprising Oriental charter airline has even given up on passengers altogether to fly goldfish from Hong Kong to the outside world!

After stops at Tokyo and Taiwan, Runnalls flew to Hong Kong where he contacted Cathay Pacific Airlines officials before the big swing across to Switzerland via 880-M.

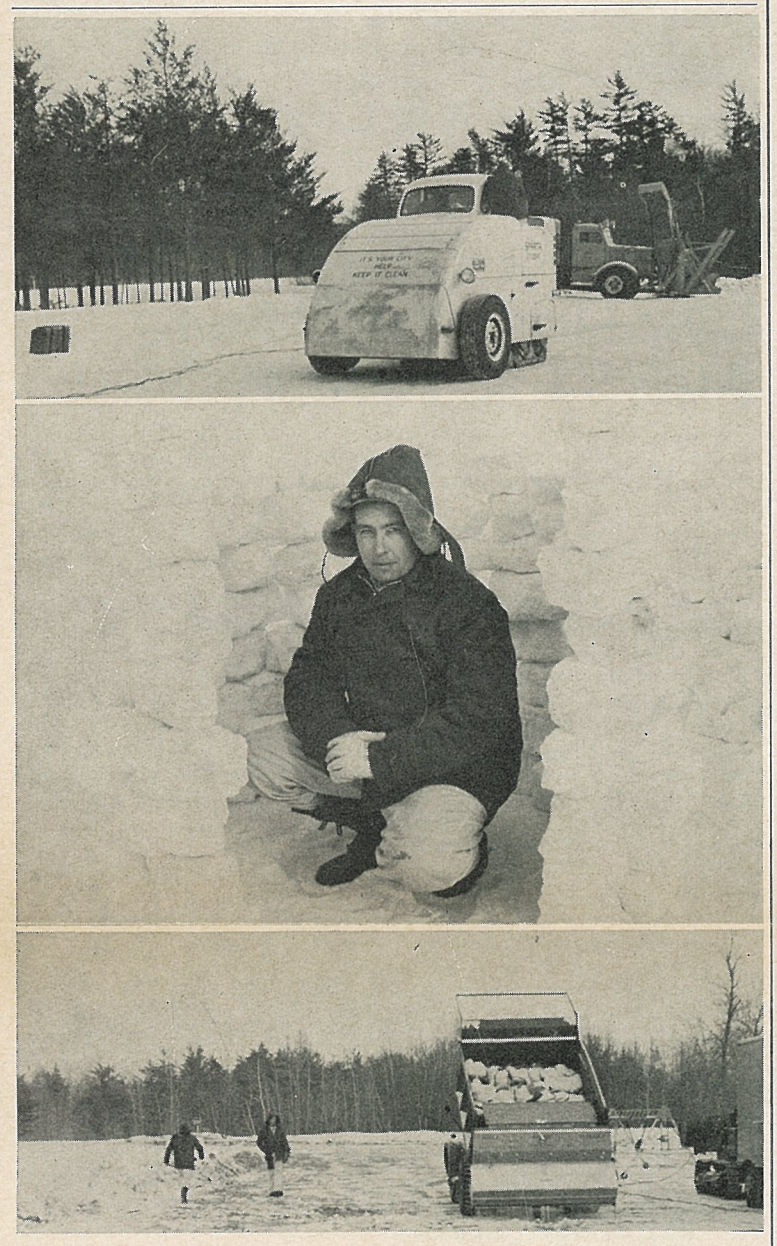
"The flight to Zurich aboard a Swissair 880-M was uneventful and not too productive for data acquisition due to night flying and rough air. However, flight crew endorsements echoed other customer airline crew statements.

"I am convinced that Swissair engineering is unchallenged in the field of operational performance review and control."

He summarized his findings, "High point of the trip was undoubtedly the excellent reliability record being established by the 880-M around the world."

Last customer contact was with Trans World Airlines in Kansas City before heading back to the West Coast.

He has since surveyed Alaska Airlines operations, flying on scheduled 880-M runs from Seattle to Anchorage and Fairbanks in 26 degrees below zero weather. The Seattle airline is expecting a booming upswing in jet travel to Alaska during months of the Seattle World Fair. In May it will begin two round trips a day to Alaska



CLEAN SWEEP—Street cleaner, top, employs mechanical sweeper to go over strip strewn with radioactive fallout sand. It was one of several fallout techniques U. S. Army troops used in exercises at Camp McCoy, Wis. During lull, Bill Bryant, GD/FW health physicist, dodges frigid wind in improvised igloo.

GD/FW Experts Complete Decontamination Tests

U. S. Army troops, assisted by General Dynamics/Fort Worth engineers and health physicists, completed a series of radiation decontamination exercises at Camp McCoy, Wis., in February, two-and-one-half weeks ahead of schedule.

Test results were apparently "very successful," according to Eldon Brooks, GD/FW testing analyst, one of the first to return.

"A few of our people will stay on through February to make certain the camp is ready to turn back over to the Army," Brooks said.

Camp McCoy is an inactive Army base used in summer months as a training site for reservists.

Brooks said weather conditions varied from 36 degrees below zero to 54 degrees.

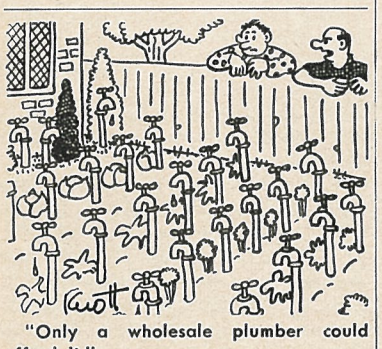
"During the coldest siege, we had five straight days of below-zero temperatures," he said, "but well-insulated clothing, heavy parkas and a lot of activity kept us reasonably warm."

GD/Fort Worth nuclear engineers and physicists provided health physics and radiological safety services, technical measurements, disposition of residual contamination, and data reduction for the experiments.

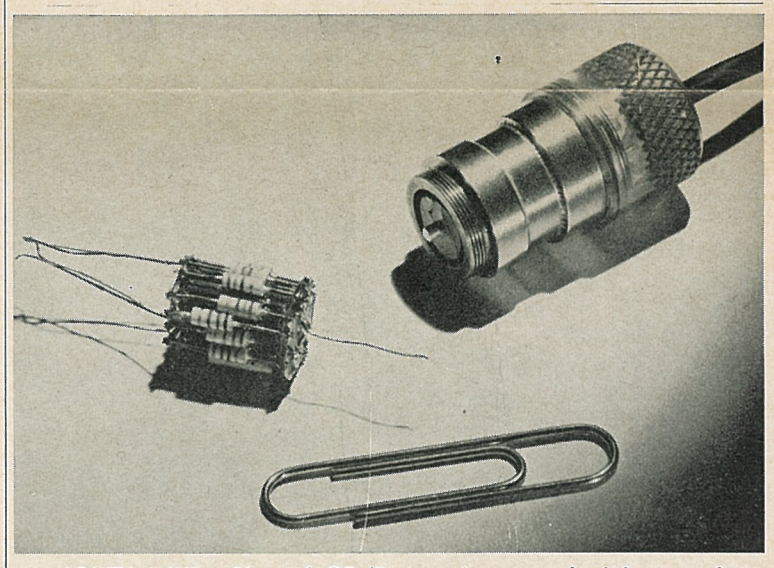
Army troops tested effectiveness of a number of devices including fire hose, mechanized blade scraper and vacuum sweeper—to clear areas and buildings of a fallout simulant.

The simulant was radioactive sand containing about 1/10,000 the radiation that would result from actual nuclear explosion, according to Frank Paschal, health physics administrator at GD/FW.

Included in the GD/Fort Worth team were: W. H. Heneveld, senior nuclear engineer in charge; C. C. Kilmer, engineering chemist; Charles H. Fletcher, design specialist; H. G. Bradbury, senior nuclear engineer; and J. Barnard, nuclear engineer. Health physicists were W. R. Miller and H. W. Bryant.



"Only a wholesale plumber could afford it."



MIGHTY MIKE—Size of GD/Pomona's new subminiature microphone pre-amplifier, left, is emphasized by comparison with one-inch paper clip. At right is cylindrical tube in which pre-amplifier is packaged. It is small enough for installation in today's most compact missiles.

New Midget Microphone Monitors Missile Noise

A subminiature, high-impedance microphone pre-amplifier, small enough for installation in today's most compact missiles, has been developed at General Dynamics/Pomona.

Size reduction of this transistorized unit is about 20 to 1 compared with the latest American product and 4 to 1 compared with the smallest European device. The decrease in size is accompanied by a corresponding decrease in weight.

The microphone pre-amplifier's size and weight are especially suitable for military applications. Until development of the new product by GD/Pomona engineering package laboratory, size factors precluded installation of standard models in the more compact missiles.

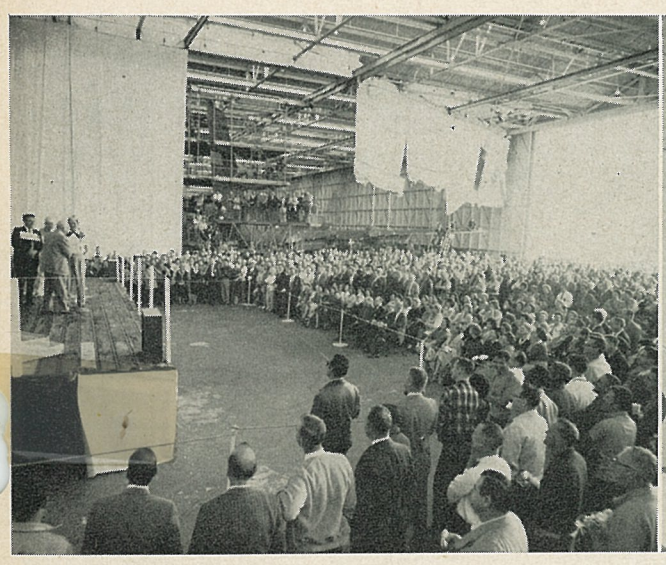
The pre-amplifier's primary purpose in the military field is to monitor acoustical noise during missile flight tests. This high-level noise—particular types of resonance caused by severe flight maneuvers—indicates possible electronic or structural failures.

The unit is completely encapsulated after assembly, making it virtually impervious to the effects of normal shock, acceleration, vibration and temperature.

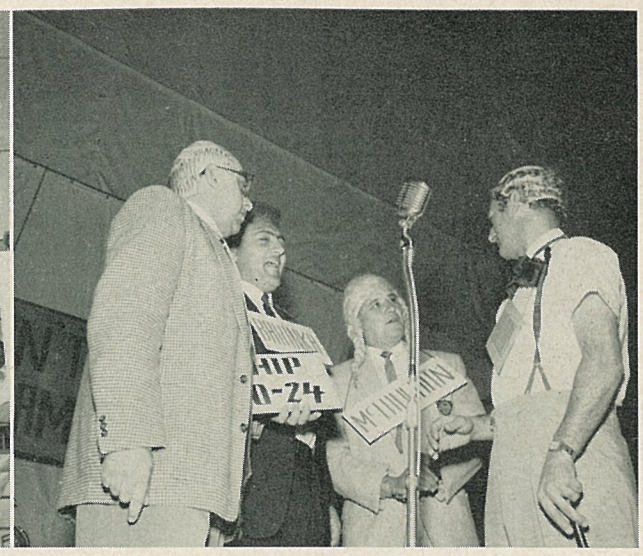
Commercial applications for the microphone pre-amplifier exceed those of any standard military type. The extremely small size could make its use particularly attractive for certain forms of entertainment. For instance, it could be unobtrusively employed with a lapel microphone for television, radio and public speaking.

Total package volume is less than 0.25 cubic inch. Weight, including a 14-inch output cable, is only 15 grams.

The cylindrical tube in which the pre-amplifier is packaged is less than one-half inch in diameter and about an inch long. One end of the tube is externally threaded to receive a commercially available capacitance microphone cartridge. Leads for output, power supply and microphone bias are extended from the end opposite the microphone cartridge.







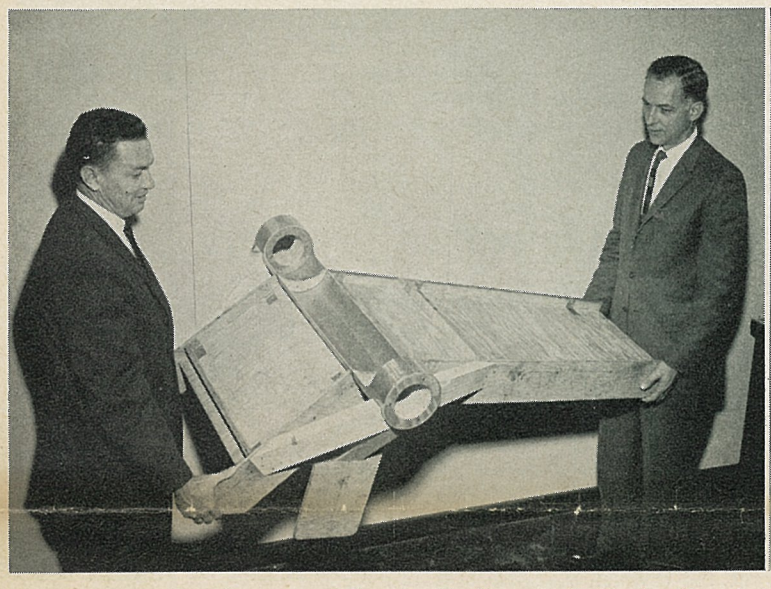
THAT OLD GANG—It was quite a show last week in Bldg. 3, San Diego, at lunchtime, lampooning "bet" concerning ticketing ship No. 24. In center, above, Les Boring "pays off" with trumpet solo—good, too!—while Emmett Williams gloats. At right are John Contasti, Louie Imbimbo, Sam Stearns and Jack Corrao.

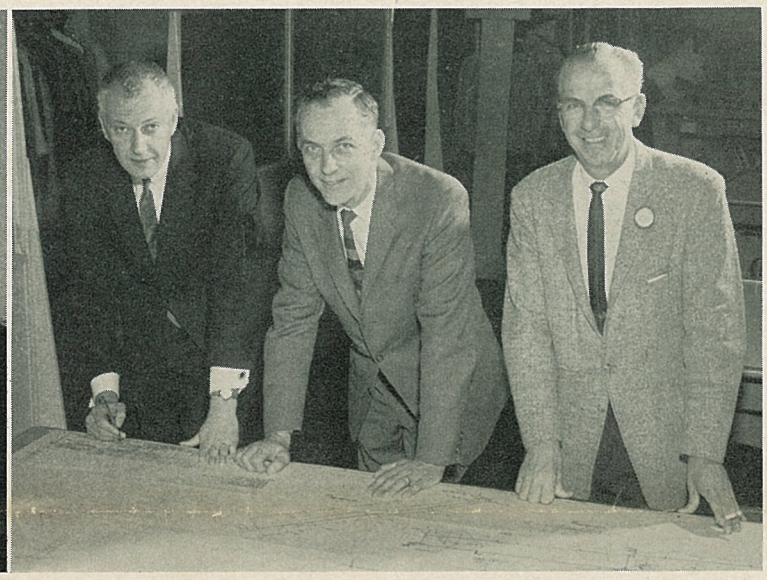
GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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SIGN-OFF—In photo at right, D. H. Koozer (left), Lockheed C-141 engineering representative based at GD/Convair, signs first approved C-141 empennage engineering drawing. In center is R. W. Miller, GD/Convair C-141 project engineer; at right, W. W. Beal, Lockheed C-141 purchasing representative. In photo at left, J. M. Adamson, GD/Convair C-141 project manager, and R. W. Miller, project engineer, hold first wooden mockup of C-141 component. Built to actual size is pivot fitting for vertical stabilizer.

Convair Spirit Shines Behind Mask of Fun

GD/Convair showed a bright flash of its fighting spirit last week, shining from behind a burlesque facade.

The burlesque was a half hour show put on at lunchtime to celebrate ticketing ship No. 24 in less than 13 days, by which accomplishment Supt. Emmett Williams of field operations avoided having to pay up a bet (the penalty being a violin concert from the ship's wing). The loser was Supt. Les Boring, whose penalty was a trumpet solo, manfully rendered.

It was a half hour of music (provided by a dozen talented musicians from various departments), kidding and horseplay; but for one who cared to look a bit deeper there was a significance, and a note of pathos. It lay in the last sentence of a parody of "Roll Out the Barrel" written for the occasion by Luke Barbour of Dept. 160, who with Boring was among the show's "producers."

The line read: "Now's the time to roll out the contracts—For the gang's still here!"

And the gang was there, too, spending the lunch hour around a makeshift bandstand in Bldg. 3.

F. H. "Red" McLaughlin, manager of factory production, whose behind - the - scenes manipulating created the show, laughed as loudly as anyone at the lampooning, but behind the grin was a grim determination to "keep the gang still here."

"Sure, we've got machines—but this gang is our real capability," he said in a serious aside. "Experienced? They wrote the book. Loyal? Two of the guys that are playing in the band today have been laid off—but they asked to come back just to take part, because they're still part of the gang."

Top management had front row seats—W. P. Gullander, executive vice president of General Dynamics, Edward J. Williams, vice president-manufacturing, Joe Famme, GD/Convair president—and chuckled with the rest as Supt. Lee House emceed the performance.

The music was outstanding,

(Continued on Page 2)

Surplus Phone Lines Sought

Surplus telephone equipment throughout General Dynamics/Convair is being removed in an all-out effort to reduce utility costs.

"We are particularly anxious to eliminate charges for equipment installations not absolutely necessary for present operations," R. E. Bechtol, chief of facilities engineering, stressed.

"The added cost of single instruments and lines, call buttons, flashing lights, and other conveniences appears insignificant, but when multiplied by more than 3,000 instruments now installed at Plant 1, the cost runs into a great deal of money."

Each standard instrument with-

(Continued on Page 2)



SILENCED—One phone which will no longer peal in GD/Convair is shown to R. A. Neale, GD/Convair general manager, by Pacific Telephone Company's Gary Crow as he removes unnecessary instrument, saving $45.

C-141 Empennage In Tooling Stage

Work on the C-141 empennage project at General Dynamics/Convair has moved into the tooling stage with release of first engineering drawings at the San Diego plant, J. M. Adamson, project manager, announced.

First engineering drawing was approved by Lockheed-Georgia Co. resident representatives the latter part of February.

Approximately 80 GD/Convair engineers are producing design drawings for the tail section of the C-141 jet cargo plane being built for the Air Force with Lockheed-Georgia Co. as prime contractor.

Drawings for the vertical stabilizer were first to be released to put the actual production process into motion. Design drawings for the horizontal stabilizer now are being released simultaneously, said R. W. Miller, project engineer.

Build-up is beginning in tooling as work starts on fabrication of detailed parts for the vertical stabilizer. By June, as tooling reaches its peak, there will be 270 employees assigned to C-141 tooling operations.

Scheduling calls for first factory work the latter part of July. Production will be done in Plant 2.

First production article is due on deck at Lockheed-Georgia's Marietta facility in April of 1963. A static test article will be delivered in March of the same year after it has been assembled and checked at GD/Convair.

Initial contract calls for five production and two test articles.

In a recent relocation at the San Diego plant, all engineers engaged in C-141 design, and support functions, now are consolidated on the third floor of Bldg. 5 at Plant 1, said Miller. These people were moved from original areas on the third floor of Bldg. 51.

Lectures Continue On Improved Mfg.

Manufacturing supervision at GD/Convair are reminded of the continuing series of lectures dealing with latest production methods held each Wednesday morning.

Time is at 10 a.m. in the Bldg. 14, Plant 1, auditorium.

Under the title, "Better Manufacturing Through Better Understanding," the series is bringing experts in newest manufacturing developments before the weekly gatherings.

The series will run at least six more weeks.

Joe Harris Takes Over Helm Of CRA, Succeeds Jack Swank

Joe Harris heads a new slate of officers chosen this month by the GD/Convair Recreation Association Employees' Council.

He steps up from vice president to succeed Jack Swank, president of the Council the last two years.

Council members chose Gerry Wright as vice president; H. A. "Pete" Beyrer, treasurer; and returned Martha Woodberry to the post of secretary by unanimous decision.

Harris, a flight test instrumentation engineer, has been with GD/Convair since 1939. For more than ten years he has been an active worker in CRA activities.

He was instrumental in organization of ice skating, snow ski, and water ski activities for the division, heading all three as commissioner in their first years. Since 1955 he has been CRA commissioner of the Snow Ski Club.

Wright, a schedules engineer, joined GD/Convair in 1942. He was a charter member of the Sports Car Club when it was organized in 1954 and has served as commissioner since 1956.

Beyrer, well-known in all CRA circles for his activities with many forms of recreation as CRA representative, has been with the company since 1940. He has been assigned directly to CRA through the employee services section since 1949.

In the years since, he has represented CRA in Little League, model railroad, tropical fish, baseball, swimming, table tennis, volleyball, to mention a few activities.

Martha Woodberry is secretary to J. K. Field, chief of employee services, and CRA commissioner of women's activities. She has been with GD/Convair 11 years and active in many of the division's recreational groups. She now heads the ice skating activity as commissioner.

Salvage Schedule Set For March

Employees of General Dynamics in the San Diego area may make purchases from 8 a.m. until noon at GD/Convair and GD/Astro salvage yards on the following alternating Saturday schedule:

GD/Convair—March 17 and 31.

GD/Astro—March 24, April 7.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due during the period March 1 through March 15.

Twenty-five-year: Dept. 6-100, G. T. Waite.

Twenty-year: Dept. 1-31-1, J. G. Ceseno; Dept. 3-2, H. A. Beyrer; Dept. 6, R. B. Albers, E. R. Buckman, L. A. Burnett, T. D. Stromie; Dept. 14-9, Virginia T. Cannon; Dept. 25-1, T. E. Moore; Dept. 120, H. M. Donaldson; Dept. 123, F. L. Cantrell; Dept. 140, R. C. Smithart; Dept. 146, G. F. Roberts; Dept. 180, G. G. Ramos; Dept. 204, Raymond Lynas; Dept. 271, W. E. Kisthart; Dept. 400, R. J. Came, Alexander Markewich, E. J. Penner.

Fifteen-year: Dept. 5, A. W. Fraser; Dept. 6-900, E. F. Kosen, Dept. 16-9, Margaret S. Smith; Dept. 31, Lee Davis; Dept. 48, A. G. Blakey, M. M. Hagata; Dept. 97-6, Gordon Olcott; Dept. 102, V. A. Talbot; Dept. 140, G. M. Watson; Dept. 146, Chester Perkins; Dept. 216, Juanita F. Johnson, Gretta T. Smith.

Ten-year: Dept. 1-18-6, D. R. Swanson; Dept. 1-31-1, Olyon Paschal; Dept. 3-1, W. M. Hosman, W. P. Keeshan, B. C. Miller; Dept. 6, J. E. Hart, R. E. Malm, R. J. Reich; Dept. 14, Virginia D. Cannon, L. H. Wooten; Dept. 16, J. E. Tyler; Dept. 25, F. A. Baker, O. B. Griffin; Dept. 31, D. W. Bryant; Dept. 34, Thelma O. Aubrey; Dept. 48, Jennie T. Duren, Elsie M. Keeler, Gertrude P. Reeves, G. R. Selleck, Thelma L. Snellings; Dept. 91-7, Madeline M. Andrade, Theda S. Chilcote; Dept. 97, V. M. Challe, J. A. Hicks; Dept. 115, M. B. Romero; Dept. 138, M. H. Andrews; Dept. 140, Alfonso Gonzales, F. N. Wilson.

Dept. 146, R. L. Brahm, J. T. Mendoza; Dept. 148, A. C. McDowell; Dept. 160, F. T. Line, T. M. Miller; Dept. 171, Edward Shimko; Dept. 192, Nelma T. Ashcraft, Helen M. Kuentzel, Ethel E. Thompson; Dept. 215, F. A. Pascua; Dept. 292, J. W. Perdue; Dept. 400, J. T. Scott, R. F. Schweitzer; Dept. 401, F. J. Goerner, F. D. Henry, Benjamin Kantor, V. L. McKerrihan, R. E. Owen.

GD/ELECTRONICS

Twenty-five-year: Dept. 5, J. J. Szakacs.

Twenty-year: Dept. 2, N. J. Barnes; Dept. 5, J. M. Drollinger.

Ten-year: Dept. 5, J. H. Catterall.

Retirements

CONVAIR

BRUUNER—Arthur L., Dept. 31. Seniority date April 24, 1950, retirement effective Feb. 28, 1962.

BUETTNER—George C., Dept. 48-07. Seniority date Feb. 27, 1952, retirement effective Feb. 28, 1962.

GREGOVICH—Elsie B., Dept. 401-7. Seniority date Feb. 20, 1952, retirement effective Feb. 28, 1962.

PATTERSON—Bertha M., Dept. 215. Seniority date Sept. 28, 1951, retirement effective Feb. 28, 1962.

PETERSEN—Paul C., Dept. 160. Seniority date May 19, 1947, retirement effective March 2, 1962.

PETERSON—Palmer G., Dept. 14-7. Seniority date March 21, 1956, retirement effective Feb. 16, 1962.

SMITHART—Robert C., Dept. 142. Seniority date Jan. 24, 1947, retirement effective Feb. 28, 1962.

STONE—Godfrey B., Dept. 48. Seniority date Jan. 7, 1957, retirement effective March 2, 1962.

SWEENEY—Edward J., Dept. 3-1. Seniority date Aug. 3, 1951, retirement effective Feb. 28, 1962.

WATERS—Guy E., Dept. 25. Seniority date Jan. 11, 1951, retirement effective Feb. 12, 1962.

Promotions

CONVAIR

Promotions to or within supervision effective Feb. 26.

Dept. 2-2, Office of Vice President & General Manager: To project manager-SATS, C. L. Jackson.

Dept. 6-300, Engineering-Commercial Programs: To structural group engineer, C. J. Bolin.

Dept. 192-0, Manufacturing Control-Plant 1: To superintendent, R. H. Johnson.

GD/ADVANCED PRODUCTS

Dept. 986-2: To accounting supervisor, J. E. Rutledge.

GD/ELECTRONICS

Dept. 2, Controller: To accounting supervisor, L. A. DiVincenzo.

HOLLOMAN AFB

Dept. 313-5, Model 8 Flight Operations: To asst. foreman, R. C. Roebke.

Deaths

CONVAIR

LOWERY—Jay P., Dept. 34. Killed in New York jetliner crash, March 1. Survived by wife, Barbara; daughter, Sheila; parents.

NESTINGEN—Irvin M., Corporate Office, Dept. 1-71. Killed in New York jetliner crash, March 1. Survived by wife, Glenna; two sons, Peter and William; two daughters, Pamela and Barbara; parents; four brothers; two sisters.

GD/ADVANCED PRODUCTS

WILLS—Dennis O., Dept. 986-1. Died Feb. 24. Survived by wife, Melba T. Wills.

Personals

CONVAIR

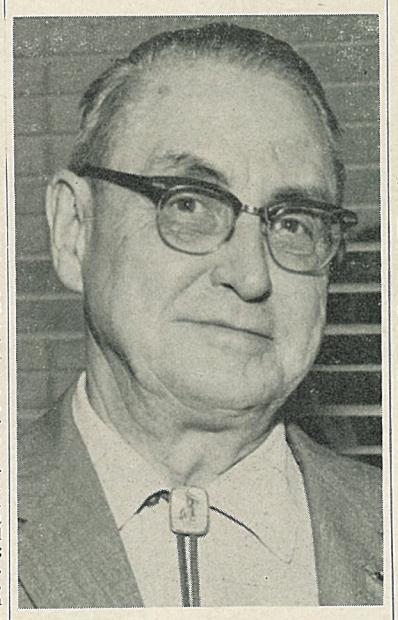
I shall always be deeply grateful to my Convair friends for the beautiful flowers, gifts, cards, and personal visits while I was in the hospital and since I have returned home.

Willie Rainbolt
(formerly Dept. 140).

* * *

My sincere thanks to the kind people at Convair for their expressions of sympathy in the death of my husband, Vernon Ahern, Dept. 145.

Mrs. Lucille Ahern.



VETERAN — Basil O. Isham, Dept. 6-300, completed 30 years of GD/Convair service last month.



Gordon T. Waite, GD/Convair Dept. 6-100, is latest to wear 25-year service emblem.

TOASTMISTRESSES MEET MARCH 27

"Analytical Listening," will be theme at the March 27 meeting of Delta Toastmistresses, Virginia Reynolds (Astro Dept. 592-2), program chairman, has announced.

Marie Picotte of Suburban Toastmistress Club (husband Gordon Picotte, Astro Dept. 592-1), will be guest speaker. She will discuss evaluation in club work. Sunny Dark, Astro AF-PRO, will serve as toastmistress, and Barbara McDonald, GD/Electronics, will give the inspiration.

Meetings are held on the second and fourth Tuesdays of each month in the Convair executive dining room, 7:30 p.m. Visitors are always welcome. Further information about the club may be obtained from Martha Woodberry, Delta president, ext. 1245, GD/Convair Plant 1.

Riders and Drivers Service Offered

Unless the demand is greater than available space, **General Dynamics NEWS** will carry mention of GD/Convair riders seeking rides to and from work and drivers looking for passengers.

Phone ext. 1071 with the information, or send a note to the **NEWS**, mail zone 1-320.

Club Dance Tickets Continue on Sale

A limited number of tickets to the GD/Convair Management Club annual spring dance this Saturday night (March 17) are still on hand at ticket outlets for last-minute sales.

Art Ratz, arrangements chairman for material department who is sponsor, urges all members who want to celebrate St. Patrick's Day in an all-out way to get in line for ducats at once. Tickets are $3 a couple.

Affair will be in the Caribbean Room of El Cortez Hotel with dancing to Alvino Rey's Orchestra from 9 p.m. to 1 a.m.

For ticket information call Roy Fildes, ticket chairman, ext. 2232 at Rose Canyon.

Convair Spirit Shines Behind Mask of Fun

(Continued from Page 1)

considering there had been little opportunity to practice. Musicians included Hap Manion (Dept. 180), Roy Wilson (Dept. 148), Tom Calvert (Dept. 146), Larry Cupp and Fritz Porter (both Dept. 48), Joe Johnson (Dept. 129), Fred McDonald (Dept. 160), Turner Albright (Dept. 91), Paul VanAlstine (Dept. 180) and Stuart Cooper, with Barbour as leader.

Members of the "cast" included John Moraldo (Dept. 140), John Luckett (Dept. 192), Don Palumbo (Dept. 148), Louis Imbimbo, John Contasti, Jack Corrao, Sam Stearns, Bill Moore, Frank Applegate (all Dept. 160), Andy Young (Dept. 146).

Leading the group of talented dancers was Ken Yzelman (Dept. 180).

Surplus Phone Lines Sought

(Continued from Page 1)

out auxiliary equipment of any kind costs $18 a year.

A second line to a phone increases the initial cost to as much as $30 each year, depending on type of installation, Bechtol pointed out. Cost of an added instrument is even higher if its location is more than 300 feet from the main switchboard.

Speaker-type phones, allowing transmission and reception of room conversation, cost $90 each a year besides the normal equipment costs.

Any office within the plant which can reduce its telephone equipment in any way, either through removal of existing instruments or by change of present installation, is urged to call maintenance dispatch office, ext. 2095, Plant 1.

Hoop Leaders In Stretch Duel

Rose Canyon and 990 Jets may be doing the "same song, second verse" bit all over again as they stretch neck-to-neck in the final round of GD/Convair shop league basketball play.

Both teams had won all of their tilts after three weeks of second-half play. Rose Canyon was to play Dept. 25 last Thursday and 990 Jets faced Electronics the next night.

If they continued their winning streak, they will go into their own duel this Thursday (March 15) with tied standings.

Rose Canyon defeated the Jets by a close score to win the first half in the shop tourney.

Depending on outcome of tomorrow's game first and second-half winners will have a sudden death play-off in one game Friday (March 23) for the championship.

All games are played on Balboa Park's Muni Gym courts at 6:50 p.m. Thursday; 6:50 and 9 p.m. on Friday nights. Spectators are welcome.



THIRD ROUND—Receiving certificates of completion at end of third GD/Convair value control seminar are (top) group of GD/Electronics men (M. M. Reeder, far right, is new GD/Electronics value control coordinator). Lower shot shows GD/Convair supervision completing two-week seminar. R. A. Neale (center shot), GD/Convair general manager, speaks at closing session.

Value Engineering Seminars Scheduled Every Month

A procedure in actual operation came under the close scrutiny of the value vs. cost searchlight at the third General Dynamics/Convair value control seminar.

Finding a more economical and efficient means of distributing engineering documents throughout the division was the task of one of the eight GD/Convair teams, said H. P. Williams, manager of value control.

"Hand in hand with our goal of streamlining and reducing cost of operating systems, we feel that our value control program can play a most important part in examination of present procedures," he explained.

Recommendations of the value control team, after two weeks of study during the Feb. 12-23 seminar, are being used as the basis of an administrative survey before action is taken.

Final team report suggested consolidation of all blueprint cribs in one central location to reduce substantially cost of maintenance. Telewriters throughout the plant and messengers on bicycles were recommended as most economical means of rapid distribution.

Alternate plans, also under consideration, involved use of microfilm, aperture cards, viewers and printers to eliminate space and upkeep of the quantity of engineering documents in use.

Before handing completion certificates to the 39 GD/Convair and 10 GD/Electronics men attending the seminar, R. A. Neale, GD/Convair general manager, pointed out that value control within the company involves every employee.

"For a successful value control program, management endorsement is not enough," he stressed.

"The important question is—what is each of you going to do to make the program more effective?"

In other developments geared to making the value control organization at GD/Convair as strong as possible, eight sub-section coordinators have been named within the engineering department. While retaining their own departmental duties, they report to S. W. Swenson, engineering value control coordinator, on all matters pertaining to value control.

Coordinators are R. A. Black, propulsion and mechanical design; R. E. Dietz, support design; J. C. Hoover, equipment design; John Burgeson, structural design; S. B. Stevens, customer service; W. P. Easley, flight test; Roy Krava, technical; Bruce Graham, administration.

Fourth value control seminar in the continuing program opened Monday of this week to run through March 23.

Projects, team members and department numbers, and leaders at the Feb. 12-23 seminar were:

Team No. 1—C-141 Vertical Stabilizer Trailing Edge: P. L. Brady (6); G. K. Cox (101); R. C. Fildes (34-1); D. J. Fraser (6); J. F. Murphy (23-1). Project leader, K. C. Atkin.

Team No. 2—4EJ Tail Cone Fittings: J. Cicalo (44-3); W. C. Foley (400-2); A. W. Kellogg (6); J. W. Vint (25-1); R. C. Westbrook (6). Project leader, Atkin.

Team No. 3—Pod Fairing Cone, Assembly & Sequencing: H. W. Callihan (6); R. J. Haney (12); A. R. Hermann (34-2); F. W. Walrod (401-8). Project leader, H. G. Rote.

Team No. 4—Track & Fitting for Pod Mechanisms: P. W. Bethea (45); P. N. Bosch (6); P. A. Hamm (13-0); V. S. Mathews (6); B. L. Wolfe (218). Project leader, Rote.

Team No. 5—Motor Protector, Loss of Phase: J. S. Bryant (138); F. Drescher (22); A. A. Fabbri (6); J. D. Fink (43); L. G. Lawson (48-01). Project leader, F. T. Puryear.

Team No. 6—Distribution of Engineering Documents: M. L. Clayton (6); C. U. Giusti (24); J. P. James (192); C. K. Twohey (8-4); W. J. Wood (6). Project leader, Puryear.

Team No. 7—F-106 IR Indicator: O. C. Banke (31); T. E. Barker (34-5); L. O. Cederwall (6); R. E. Strayer (6); L. A. Williams (12). Project leader, H. A. Billings.

Team No. 8—Model 22 Honeycomb Panel, Shop Fabrication & Assembly: N. Grand (45-0); J. E. Miller (400-2); R. V. Shields (6); L. C. Stuckey (48-0); P. F. White (6). Project leader, Billings.

Two GD/Electronics teams were headed by M. M. Reeder, newly-appointed value control coordinator for the GD/Electronics division at San Diego:

Team No. 9—Roll Servo Assembly Antenna: G. F. Belgum (5); G. L. Hale (5); L. Resnick (5); H. Schmidt (5); G. H. Swisher (Info. Tech.)

Team No. 10—Control Box Mapping Radar: F. D. D'Amico (5); R. E. Hickok (6); R. L. Hurst (5); S. Rogers (Info. Tech.); J. Wahl (5).

PROJECT ADVANCE Scoreboard:

Total Savings

(March 10)

$307,783

("Project Advance" is a plant-wide campaign, started the first part of this year, to eliminate duplication of effort and slash costs at GD/Convair.)

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GD/Electronics (San Diego) news contacts: Info. Tech., Helen Wood, CY-8-8331, ext. 15; Milit. Prod., Betty Freeby, CY-8-4641, ext. 1377.

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Master Form Created (Glass and Plastic Foam) By Numerical Control

A new lightweight, compound-contoured master form with dimensional stability has been machined by numerical control at General Dynamics/Fort Worth.

Made of honeycomb and fiber glass panels, plastic foam and a solid plastic face, the form was machined by Dept. 81 in a Variax mill.

"To my knowledge, this is the first time a numerical controlled machine tool has been used to produce a contoured master form in three dimensions," said W. H. Drebing, senior tool engineer.

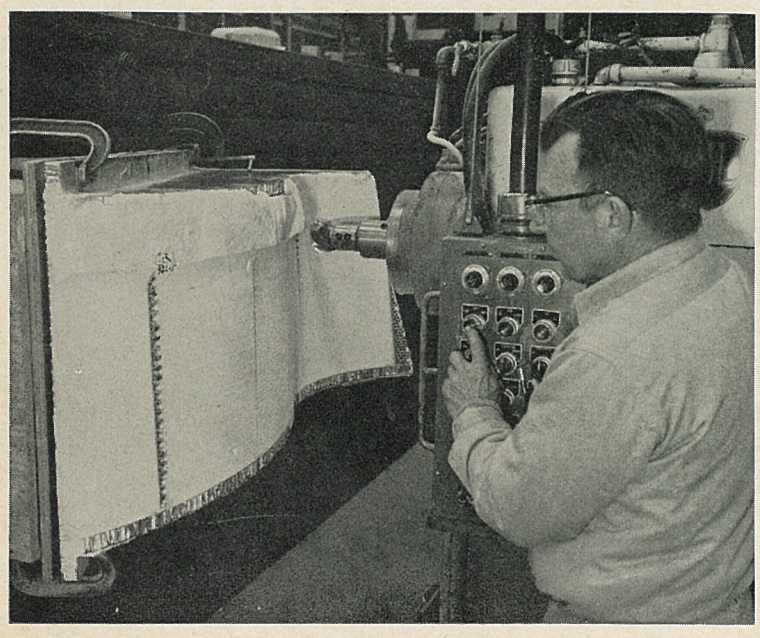
Dept. 23 (applied manufacturing research and development) is coordinating the project.

About 9,000 IBM punched cards directed the 7090 computer in making over 72 million computations (additions and subtractions) to produce the magnetic tape used to guide the milling machine in cutting the form to proper shape.

"The intricate nature of the form required a mathematical description of the contoured surface and careful programming," Drebing said.

"The new master form can be carried by two average men," he added, "while a conventional plaster form the same size ordinarily requires a fork lift."

J. T. Livengood, Dept. 6 linesman; Warren Watson, computing lab; Charles Hoffman, programmer, and B. L. Harrison, manufacturing research, were among those assisting in the project.



PRECISE—J. H. Russell, Dept. 81, monitors fabrication of new compound-contoured master form by numerical control.



CHRISTENED—Convair 990 going into service with American Airlines March 18 is christened "Asta Astrojet" by R. F. Kerr, president American Society of Travel Agents. Shown with him at New York International Airport ceremony are Mrs. Kerr and Richard L. Fitzpatrick, AA vice president of sales and services.

Gallagher General Manager Of Advanced Products Dept.

In new appointments within the Advanced Products Department of General Dynamics at San Diego, M. J. Gallagher has been named general manager and W. G. Mang, general sales manager.

Both have been with the facility which produces Dynapak, high-energy metal forming machine, since its formation in 1958. Gallagher had been assistant general manager since last fall and acting head since the resignation of R. G. Monsees a couple of months ago.



M. J. Gallagher

He has had close contact with company operations since he first joined GD/Convair at San Diego in 1940. He was one of the first transferred to the Fort Worth division the following year. There he was outside tooling representative in charge of tooling on subcontracted items.

He joined Avco Manufacturing Corp., at that time parent company of Convair, in 1945 as assistant chief engineer. Later he transferred to the sales staff and was regional sales manager for the Western states when he left to return to General Dynamics in 1958.

At the Pomona location of first Dynapak operations, Gallagher organized first sales staff for the revolutionary product in his capacity as sales manager.

He came with the Advanced Products Department personnel when site of operations was transferred to San Diego early last year.

Mang joined initial Advanced Products operations as Eastern regional manager. He is now based at the San Diego headquarters in his new post.

A graduate of the University of Maryland, Mang holds a degree in mechanical engineering. He has taken an active part in the development of Dynapak, its advances, and acceptance in the metal-working field since it was first introduced to industry nearly four years ago. He is frequently called upon to speak before technical and industrial groups on high-energy rate forging.

Gallagher foresees a good business year ahead for Advanced Products with the introduction of the new Dynapak models. At least 50 leading companies in the United States and abroad have installed and now are using Dynapak machines. Seven have been purchased by Japanese industries, one by an Austrian firm, others are due to go to Great Britain.

Gallagher reports directly to Paul Hickman, General Dynamics Corporation manager of new products, located at New York City.

Conference Called On Mental Health

Norman M. Molesko, General Dynamics/Astronautics human reliability requirements engineer, will be among members of the San Diego County Psychological Association staging a Mental Health Career conference this month.

To be held March 31 at Recital Hall, Balboa Park, San Diego, the affair will be for approximately 250 senior high school students interested in mental health careers in psychology.



MANAGERS BRIEFED ON CAPABILITIES OF WESTERN DIVISIONS

New capabilities under development at General Dynamics divisions on the West Coast were displayed last month to first group of Corporate field office personnel under a new orientation program.

All of the 50 managers and representatives who man General Dynamics field offices throughout the United States and abroad will visit each of the corporation's 12 divisions in this country at least twice a year. During their tours they will be briefed on all existing programs and capabilities and brought up to date on new developments.

First contingent spent time at Convair, Astronautics, Electronics, General Atomic divisions in the San Diego area and went on to General Dynamics/Pomona during the five-day seminar, Feb. 19-23. They will visit East Coast locations and General Dynamics/Fort Worth at a later date.

Robert Whitfield, assistant to General Dynamics director of government relations at San Diego, coordinated arrangements.

Field office managers included in the group were: R. M. MacIver, Colorado Springs, Colo.; K. M. Campbell, Dayton, Ohio; J. J. Walden, San Antonio, Texas; E. R. Hinz, Los Angeles, Calif.; D. Rowland, Washington, D. C.; Lloyd Doling, manager of government relations-Navy, based at San Diego Corporate Office.

Others were F. R. Heyner, Cambridge, Mass.; W. J. Alspach, Dayton, Ohio; W. A. Roberts, Huntsville, Ala.; P. R. Hurley, Omaha, Neb.; R. L. Layburn and W. H. Campbell of Redbank, N. J.; W. F. Sailor, Rome, N. Y.; J. C. Henson, San Antonio, Texas; Grady Harrison, Geneva, Switzerland; J. H. Mason, Los Angeles; R. W. Menzel, F. F. deFrance, C. D. England, C. W. Sylvester, Washington, D. C.; C. E. Porter, Corporate Office at San Diego.

Cathay Pacific 880-M to Airlift 'Carpentry Shop' to Hong Kong

Cathay Pacific Airways Ltd. will airlift over a ton of woodworking machinery to the CARE mission in Hong Kong in its Convair 880-M ferry flight scheduled March 30.

The 2,600 lbs. of machinery will be flown to Hong Kong as part of the CARE (Cooperative for American Relief Everywhere, Inc.) self-help program. The shipment will include a band saw, wood lathe, bench saw, jointer, drill press, assorted hand tools.

Cathay Pacific took delivery on its Convair jet airliner late last month with J. H. Famme, General Dynamics/Convair president, turning over papers for the plane to Donald S. Delaney, Cathay Pacific representative.

W. C. G. Knowles, chairman of the airline, announced that 880-M passenger service would start in early April. Route stops will include Hong Kong, Tokyo, Bangkok, Singapore, Manila.

The plane will have a seating arrangement of 20 four-across, first-class seats and 74 five-across, economy class seats.

British pilots fly the airline's passenger and cargo runs throughout the Orient. Flight stewards are Chinese and bilingual in English and Chinese. Hostesses are Indian, Chinese, Japanese, Portuguese, and Korean girls.



CARE CREW — Cathay Pacific pilots J. F. C. Carrington and A. B. Armstrong survey part of 2,600-lb. load of machinery for CARE to be ferried to Hong Kong aboard Cathay Pacific's 880-M last of March. Girls are Beverly Witchner, CARE representative, and Kathy Saiato of Cathay sales office in San Francisco.

Australia Hails Glenn's Orbit

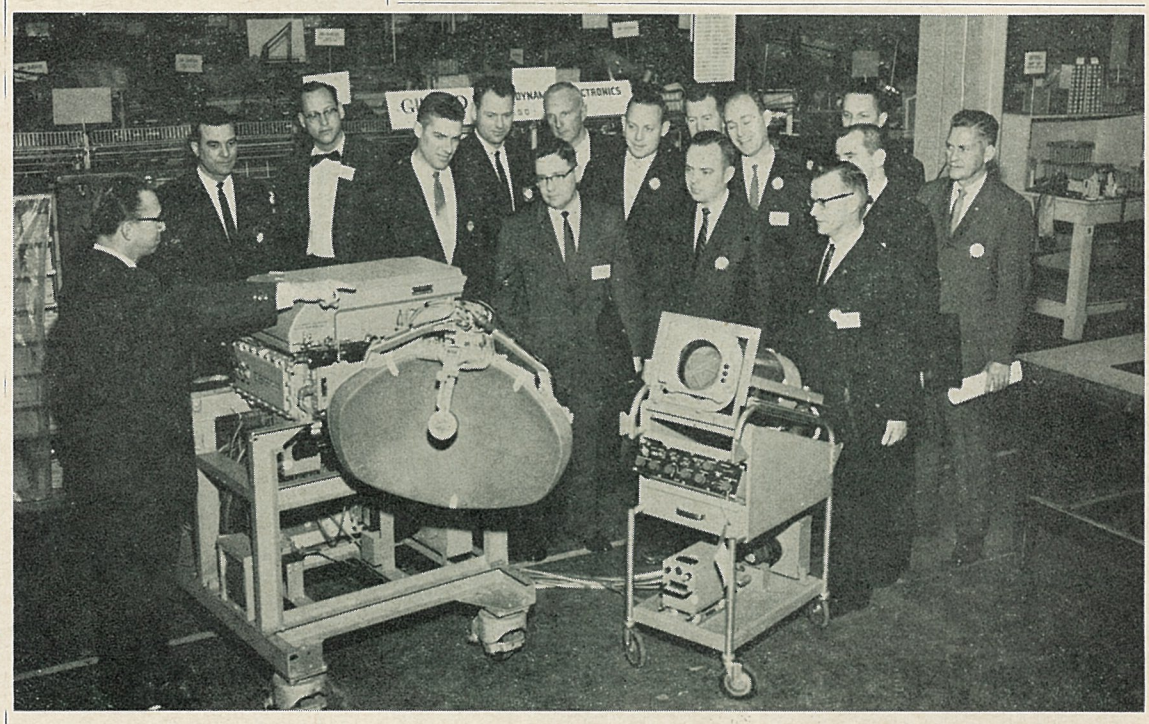
The flight of Astronaut John Glenn's Atlas-boosted "Friendship 7" Mercury spacecraft was the biggest thing to happen in Australia since the end of World War II.

This was the opinion of Astronautics' Ted Schroeder who was "down under" on company business at the time of the flight. Schroeder was in Randwick (near Sydney) and stayed up all night to follow progress of the flight.

"We heard ABC's version of 'Voice of America' from about 10 p.m. their time until 6:01 a.m. when recovery was accomplished," Schroeder said. "I heard J. R. Dempsey and W. H. Patterson being interviewed at the main plant . . ."

Schroeder said Glenn's thanks to citizens of Perth for turning on their lights during his pass was a tremendous success.

Schroeder's opinions were shared by E. P. Hartman, NASA senior scientific representative at Melbourne, whom he visited.



ON TOUR—Group of General Dynamics field office personnel from U. S. and abroad are briefed by H. L. Gates, GD/Electronics manager of operations at San Diego, during stop at electronics production area on recent orientation tour of various GD divisions.

Dynamics Men Die in Crash

Three General Dynamics men lost their lives in the crash of an American Airlines jetliner the first of this month in New York.

I. M. Nestingen of Corporate Office at San Diego; J. P. Lowery, a senior buyer for General Dynamics/Convair; and Robert Dunston of General Atomic were among the 95 killed.

Nestingen, who joined General Dynamics at Convair in 1941, was staff assistant to the director of research engineering in the Corporate Office. He was responsible for staff supervision over research programs.

Lowery, a native of Fort Worth, Texas, first joined the company at Fort Worth division in 1951 as a material analyst. After a lapse of about four years, during which he served as a Navy pilot, he rejoined GD/Convair at San Diego in 1955 in the purchasing department.

Dunston had been with General Dynamics / Astronautics division from 1956 until a month ago when he was transferred to the General Atomic staff. He was electronics representative for quality control.

An Irvin M. Nestingen Memorial Scholarship Fund has been set up in memory of the General Dynamics executive. It will aid engineering students at the University of Minnesota, his alma mater. Donations are being handled through the office of J. P. Hamill, GD director of research and engineering at San Diego.

Cash Awards For ESs Hit Half Million

A half-million dollars has been paid out in Employee Suggestion awards at General Dynamics/Convair over the last ten years.

At the close of 1961 records, C. H. Hahn, cost reduction assistant supervisor, disclosed that hourly employees at GD/Convair have received $510,970.85 since 1951.

(First employee suggestion plan in the San Diego division was put into operation in 1936. It has operated in its present form since 1942, except for a three-year lapse at the close of World War II.)

During the last year the cost reduction section received a total of 3,982 Employee Suggestions. Twenty per cent of these, or 833, were installed. Suggesters received $34,263.02. The average Employee Suggestion award was $41.13, said Hahn.

Total number of dollars saved at GD/Convair in 1961 through the ES program was $304,399. Combined dollar savings from both ES and Cost Improvement Proposal programs was close to $2 million.

Flat-salaried men and women turned in 1,437 CIPs, of which 319 were installed. Total amount saved through CIPs was $1,618,447.



TRIPLE HONORS—S. H. Imdieke (far left) and G. L. Payton (far right) shared honors as January MacSave-it winners at recent GD/Convair Management Club meet. Center is A. B. Oberg, assistant foreman in experimental, with Mug of Month citing his activities for club. December Mug of Month went to Larry Lawson, Management Club past president.

Famme to Present Cost Cutting Award at April 18 Meeting

President's Award for 1961, top cost reduction honor of the year, will go to one of 18 eligible candidates at the April 18 meeting of General Dynamics/Convair Management Club.

GD/Convair President J. H. Famme will present the award to the flat-salaried person selected for contributing the most in savings to the company through Cost Improvement Proposals.

Winner will receive an individual bronze plaque, have his name engraved on a similar perpetual plaque in the president's office, a certificate facsimile, and a $250 gift of his choice.

Certificates of commendation will be given all candidates by R. A. Neale, GD/Convair vice president and general manager.

At the February meeting of the Management Club two men qualified jointly for the monthly MacSave-it award and began to pile up credit for the current year's cost reduction honor. January MacSave-its were S. H. Imdieke, industrial relations representative, and Gil L. Payton, chief of cost and schedules in engineering. Their joint CIP eliminated function numbers within engineering to save the company $20,263 and 7,160 manhours a year.

November MacSave-it was R. W. Chambers (Dept. 192). His CIP revised shop order paper flow eliminating the 650 operation and standard hour report. It will save $100,005 and 19,718 manhours.

L. W. Stamper, Dept. 129 general foreman, was December MacSave-it winner with a CIP saving $27,040 and 5,156 manhours. It provides for transportation containers for passenger windows and other manufactured assemblies.

Both Chambers and Stamper were put in the running for the 1961 President's Award through their proposals.

Others eligible are: W. J. Gibson (Dept. 140), O. W. Sweetland (Dept. 400), C. F. Uhl (Dept. 160), W. R. Holmes (Dept. 6), R. G. Bond (Dept. 97), Mattie C. Ross (Dept. 16-9), J. L. Byer (Dept. 34), D. P. Germeraad (Dept. 6), J. G. Sheldon (Dept. 14), S. L. Cushman (Dept. 146), J. A. Dematteis (Dept. 91), K. R. Meli (Dept. 190), L. F. Cescolini (Dept. 140), W. Martin (Dept. 31), E. E. Carpenter (Dept. 129), D. R. Wilson (Dept. 129).

Hustler Sets World Marks For Speed

A Carswell AFB B-58 Hustler dashed across the United States and back in 4 hours, 42 minutes March 5, slashing three world speed records and netting high honors for the SAC crew.

Gen. Thomas S. Power, chief of SAC, presented Distinguished Flying Crosses to Capts. Robert G. Sowers, pilot, Robert McDonald, navigator, and John T. Walton, DSO, shortly after the plane touched down at Los Angeles' International Airport.

The crew is also expected to receive the Bendix Trophy following customary certification by Federation Aeronautique Internationale.

"Tall Man Five Five" was code name for the B-58 that averaged nearly 1,045 mph in bettering by over one-third the previous best round-trip time from Los Angeles to New York—a distance of nearly 5,000 miles.

Record times set by the Hustler, and previous marks, are:

West-to-east — 2 hours, 1½ minutes, with average speed of over 1,212 mph; previous best time, 2 hours, 48 minutes, averaging 871-plus mph in F4H-1 fighter-bomber.

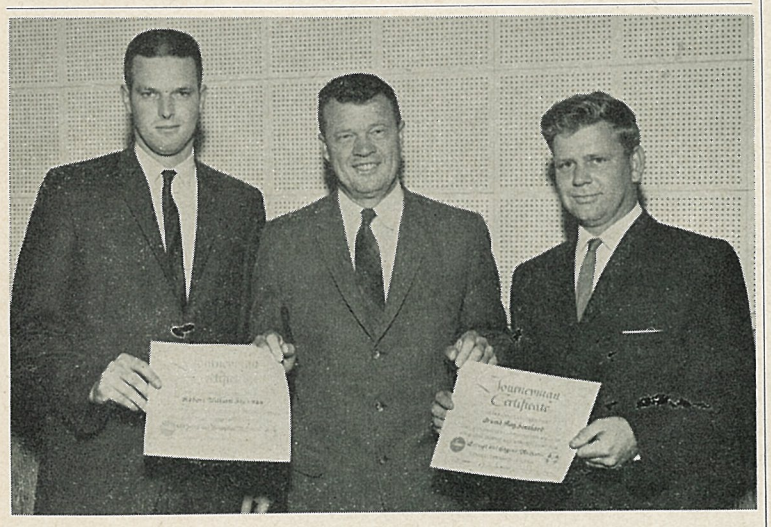
East-to-west — 2 hours, 15 minutes, averaging over 1,091 mph; previous best time, 3 hours, 36 minutes, averaging over 677 mph in RF-101C Voodoo fighter.

Round trip LA to NY—4 hours, 42 minutes-plus, averaging 1,044 mph; previous record, 6 hours, 46 minutes, averaging 721-plus mph, in RF-101C Voodoo fighter.

Included in the round-trip time, though not reflected in either the west - to - east or east - to - west times, is a 25-minute refueling stint over the Atlantic before the Hustler started its dash back.

"Tall Man Five Five" crew had a pre-dawn briefing at Carswell AFB, cruised to the coast, and refueling over the Pacific before starting their historic cross-country dash.

Most of the flight was at 50,000 feet, but the Hustler dipped down to 30,000 feet for starting, finishing and refueling.



NO. 216 AND 217—Robert W. Sherman (left) and Arnold R. Southard (right) were latest graduates (Nos. 217 and 216 respectively) from GD/Convair's four-year apprenticeship program when they received journeyman certificates last month from Steve Barinka, assistant factory manager. Southard was last aircraft and engine mechanic apprentice. Sherman first airframe and power plant mechanic as terminology changed. Both are stationed now at off-site Astro bases, Southard at Dyess AFB, Sherman at Plattsburgh.

General Atomic HTGR System Adopted For New Power Plant

The Atomic Energy Commission in Washington last month authorized construction of the world's first high temperature, gas-cooled nuclear power station at Peach Bottom in southeastern Pennsylvania on the system of the Philadelphia Electric Company.

A construction permit for the 40,000-kilowatt prototype plant was issued following hearings which established that the plant's design conforms to the safety standards fixed by the Government for all nuclear installations.

The Peach Bottom plant will be built by Philadelphia Electric and 52 other investor-owned utility companies located throughout the United States and organized as High Temperature Reactor Development Associates, Inc. The 53 companies, which generate 42 per cent of all the electricity produced by the investor-owned power companies in the United States, comprise the largest group of utilities ever to support a nuclear power project.

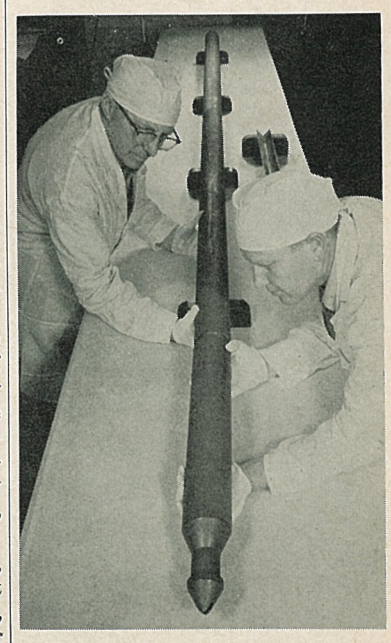
Philadelphia Electric will own and operate the plant as a unit of its 3.5-million kilowatt power generating system, serving more than a million customers. Philadelphia Electric is inter-connected with other systems in New York, New Jersey, Pennsylvania, Delaware, and Maryland.

When completed in mid-1964, the plant will represent the first commercial application of a new, advanced concept of nuclear power generation, known as the High Temperature, Gas-cooled Power Reactor (HTGR). The HTGR system has been under intensive development since 1957 by General Dynamics Corporation's General Atomic Division in San Diego.

Peach Bottom will be the first nuclear plant to produce commercial electric power at modern, high-efficiency steam conditions of 1,000-degree (F) temperature and pressure of 1,450 pounds per square inch.

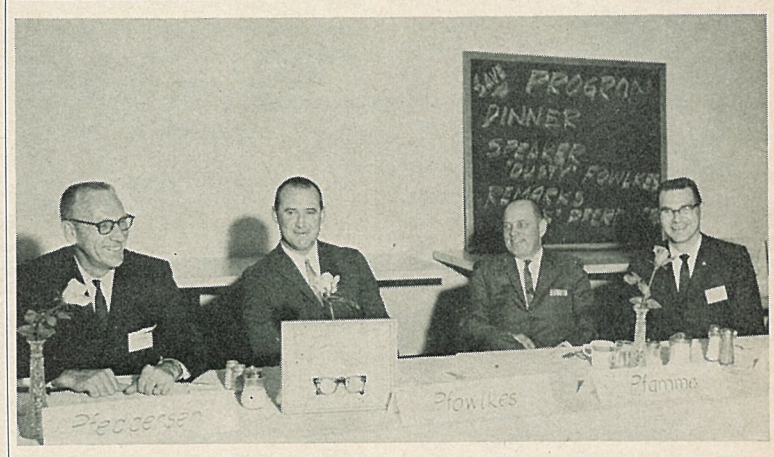
When placed in operation, the Peach Bottom plant will cost in excess of $47 million, including research and development. Of the total cost, $24.5 million is being borne entirely by Philadelphia Electric and the 52 other HTRDA companies under a fixed-price contract with Bechtel Corporation, engineer-constructor and prime contractor. The $24.5 million includes the reactor and nuclear steam supply system which General Dynamics is supplying under sub-contract with Bechtel. Westinghouse Electric Corporation will furnish the plant's turbine generator.

The Atomic Energy Commission is contributing up to maximum of $14.5 million toward General Dynamics' research and development costs for the advanced concept plant. The AEC also is waiving use charges up to $2.5 million on nuclear materials for the research-development program and on the nuclear fuel used during the plant's first five years of operation.



FUEL—Graphite-clad uranium and thorium fuel elements are assembled for power plant at General Atomic.

The 53 companies of HTRDA, including Philadelphia Electric, are contributing $16.5 million of the $24.5 million contract price as a joint development program. Philadelphia Electric is paying the other $8 million, as well as an additional $4.9 million for providing and preparing the site, plus fabrication of the nuclear fuel elements.



PFFT—Labels for E. W. Feddersen, J. K. Fowlkes, J. H. Famme at head table during last week's SAVE indoctrination dinner tagged them all alike to agree with Dick Pferdner (far right). In front of Fowlkes, main speaker, is comic plaque bearing "value technology" glasses given him as GD memento.

Dynamics Well Represented At Value Engineer Meeting

General Dynamics divisions in the San Diego area are taking an active interest in formation of a San Diego chapter of Society of American Value Engineers.

More than half of the 200 men, representing 18 companies, were from GD/Convair, GD/Astronautics and GD/Electronics at the March 6 indoctrination dinner at the Convair cafeteria.

In all, 119 prospective members from General Dynamics heard J. K. Fowlkes, president of Value Analysis, Inc., explain purpose of the national organization which is becoming ever more prominent in the industrial field.

He described value engineering and analysis, how it can be used to best advantage by industry.

E. W. Feddersen, GD director of manufacturing engineering, was master of ceremonies. J. H. Famme, GD/Convair president; gave the welcoming address, and Richard Pferdner of GD/Astro and member of the Los Angeles SAVE chapter, spoke on the organization.

Next concrete steps in formation of the chapter will see a membership drive and selection of officers and committee members within the near future.

On the planning committee from General Dynamics are Feddersen, Pferdner, and H. P. Williams, GD/Convair value control manager.

Astro Weld Carriage Floats on Air Bearing

The "state of the art" in electronic welding has taken a long stride forward, thanks to a recent application of the friction-free air bearing developed at General Dynamics/Astronautics.

Progress in electronic welding techniques had far outdistanced advances in mechanical designs for moving the welding head throughout its work path smoothly and without vibration.

In GD/Astro's applied manufacturing research (Dept. 290-2), E. L. Christian and T. A. Herbert, co-developers of the air bearing (**General Dynamics NEWS**, Jan. 17), tackled this problem by building an air bearing carriage for an eight-foot straight line traverse welder.

"Using the new carriage, we can now effectively join materials only .003-inch thick," Christian stated. "We also achieved 50 per cent improvement in surface finish of the weld."

Air bearings eliminate friction by "floating" on a thin cushion of air or inert gas, which is channeled at low pressures through specially designed tributary networks on the bearing surface. Because of their ability to lift tremendous loads, a multitude of applications has been proposed for them.

In the welder carriage, four of the bearings support and position the welding head, while the device is traversed by a simple rubber-roller drive.

The carriage is operated on the factory air supply, or can be adapted to function with a portable air source. Because there is no friction, lubrication is unnecessary, and maintenance is further reduced by the self-cleaning action of air escaping from the bearings.

The air-bearing carriage can be operated during an eight-hour day at an estimated cost of 2.7 cents!

Prior to installation of their "air-borne" device, the inventors made exhaustive tests of the welder's original carriage. This rode on 10 roller bearings, and was traversed by a gear drive.

It was apparent that the mechanical carriage introduced vibration, backlash and "flutter" which seriously hindered the welder's ability for precision work.

The gear drive produced vibrations, and the roller bearings even transmitted vibration present in the welder's factory environment to the welding head. The gear drive produced flutter and backlash greater in some cases than the thickness of the materials being welded.

"Vibration at the point of weld causes harmful stress risers, particularly in notch-sensitive materials, and mixes in air which raises the weld and interferes with desired fusion," Herbert explained.

The frictionless ride of the air bearing carriage, on the other hand, produced almost no internal vibration. Flutter and backlash disappeared.

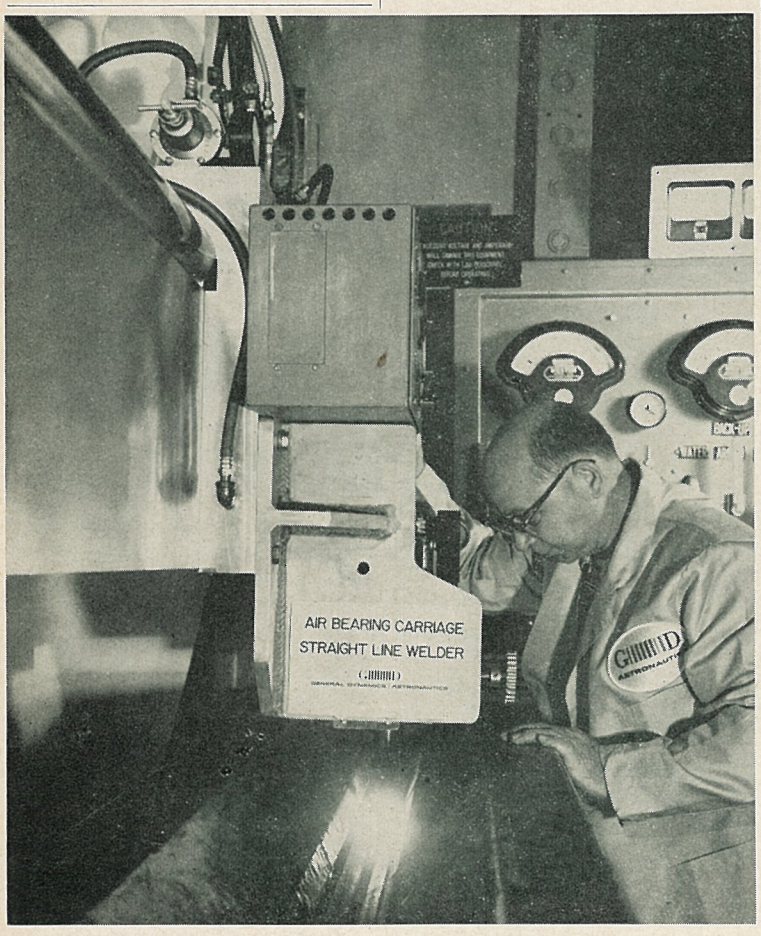
In addition, the thin layer of air between the bearings and the surface on which they ride serves as a "shock absorber" to diffuse vibrations arising in surrounding factory areas.

Accelerometer measurements show that use of the new carriage reduces horizontal vibration 400 times, and vertical vibration 23 times over that present with the mechanical carriage.

For even more startling results, the inventors have proposed mounting the entire welder and stand on a large air bearing, which would completely isolate it from environmental vibration.

Where the old carriage produced a weld finish nearly eight times as rough as the original material, the air-borne welder turns out a weld only three times as rough: an improvement of over 50 per cent.

"Carriages using the air bearing principle can be fabricated easily and economically," Christian concluded.



SMOOTH AS SILK — H. C. Underhill, Dept. 290-2, operates straight line traversing welder equipped with new air bearing carriage. New carriage permits high quality welding of extremely thin materials.

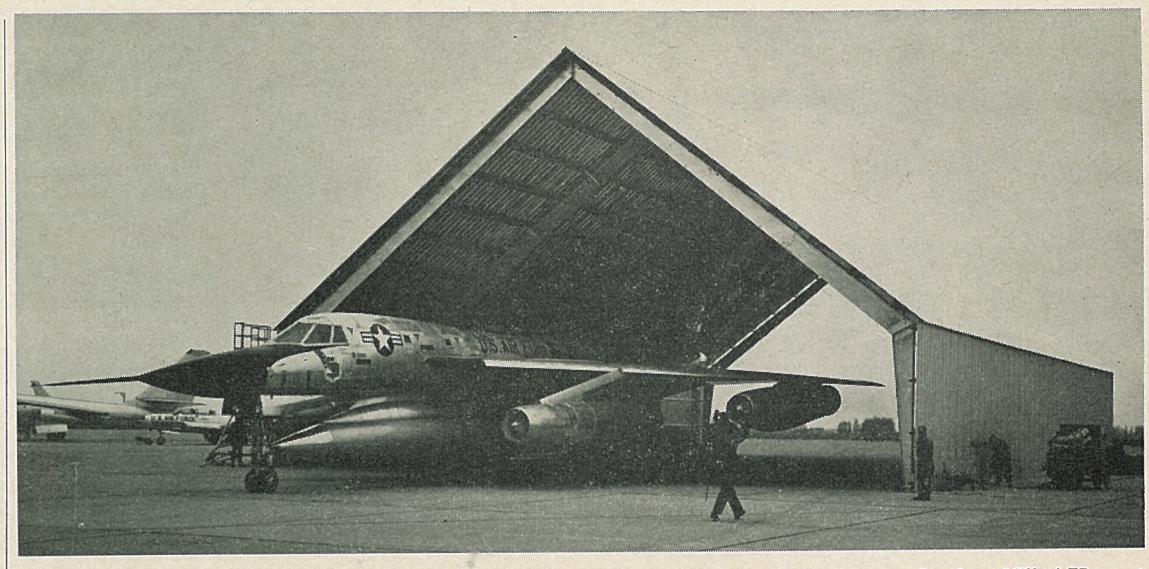
Scholarships Awarded 16

Sixteen San Diego State College students have been chosen for General Dynamics/Astronautics scholarships.

Awarded on the basis of aptitude, scholarship, need, and likelihood of success in a given study area, grants are for $75 each, and are renewable each undergraduate semester if scholastic standards are maintained.

Scholarships this semester went to Fred O. Andrews Jr., accounting; Robert Becker, John J. Emrich, Richard S. Wayne and Bruce H. Weber, chemistry; and Howard J. Bryant, Robert A. Hartmann, and William A. Hines, physics.

Dale E. Eyman, business management; Roland H. Fisher, Robert R. Smith, Rory J. Thompson and John K. Ware, mathematics; William Y. C. Howo, engineering; James J. Lisec, personnel management; and Stephen L. Pentoney, industrial management.



ROLLING OUT—Snug fit of B-58 is shown as Hustler taxis onto flight line at Bunker Hill AFB, out from under new shelter.

Easily Moved Alert Hangars Protect Bunker Hill Hustlers

"Portable," open-end alert shelters are now protecting B-58 Hustlers and their flight and maintenance crews from the elements.

Twenty-five of the corrugated metal shelters, 75 feet wide and 120 feet long, are being put in service at 305th Bomb Wing, Bunker Hill AFB, and 43rd Bomb Wing at Carswell AFB.

Although installed for permanence, a shelter can be moved simply by jacking it above cement-anchored bolts and placing special wheels under the shelter's six rigid steel frames. A shelter detaches at the fourth column, requiring two trucks to tow it.

A demonstration of the shelter was recently staged for the Air Force at Bunker Hill Air Force Base, where a number of the shelters are already installed.

A dozen of the new buildings were nearly ready at Carswell in late February, with completion of the other units slated soon.

In addition to providing shelter for the plane and its ground and flight crews during various phases of maintenance and preflight, the shelters also tend to eliminate some "jet noises."

Shelters were manufactured by Butler Manufacturing Co.

Sailplane Altitude of 5,655 ft. Wins Annual Convair Trophy

A former General Dynamics/Electronics man and a General Dynamics/Astro engineer took top honors in what may well be the last Pacific Coast Mid-Winter Soaring Championships held at the scenic Torrey Pines Glider Port near San Diego.

(The glider port site is being eliminated for construction of Dr. Jonas Salk Research Institute.)

John Williams, formerly of GD/Electronics, amassed highest total number of points to win the John J. Montgomery Memorial trophy for overall soaring performance. He scored 837 points in bomb drops, spot landings, altitude, and endurance events during the two-day meet Feb. 24-25.

He also was awarded the Convair trophy for reaching highest altitude of 5,655 feet.

Sterling Starr, now of GD/Astro and long-time soaring enthusiast, was overall runner-up with 751 points. He finished first in distance.

Junior championship trophy was won for the second year in a row by Keith Allen, son of Fred Allen of GD/Astro. Jack Green, flying a sailplane built by George Tweed, former GD/Astro man, placed third. Other General Dynamics pilots competing included John Petre of GD/Astro.

At least a score of General Dynamics men had a share in the annual contest. James Spurgeon, GD/Convair engineer, was master of ceremonies, explaining activities to the over 10,000 spectators. Twenty-seven sailplanes took part in the various events.

Others taking part in meet operations were Gene Cain, GD/Convair Dept. 6, meet starter; Carl Stark, also of GD/Convair, and sons, who aided in ground operations.

Gene Whigham, CRA Glider Club commissioner, and Ernie Shattuck of GD/Astro, provided pre-takeoff assembly inspections. Duke Stallings of GD/Convair was air traffic controller. Walt Mooney, GD/Convair, flew as tow pilot, recovering a number of sailplanes from the beach below the Torrey Pines cliffs.

Leon Montgomery of GD/Astro organized pilot entertainment activities. Kon Hanitzsch of General Atomic is president of the Associated Glider Clubs of Southern California which co-sponsored the annual event with the San Diego Junior Chamber of Commerce.

Save Material — Don't Throw Your Job Away!

Standards Lab Functions Told Quality Control

A series of conferences to more thoroughly acquaint quality control supervision at GD/Convair with functions of the division's standards laboratories is in progress.

The lectures and lab tours are a part of the methods analysis program instituted by W. J. Martin, director of quality control, more than a year ago to evaluate all quality control procedures.

In initial meetings requirements of a primary standards laboratory and methods of assuring accuracy of instruments was described by W. A. Dershem, assistant test group engineer. Standards equipment for certifying electronic and microwave standards of frequency, power, and attenuation were explained and demonstrated.

Other facets of both the primary standards and calibrating laboratories, all under direction of W. R. Holmes, head of the standards laboratories, are being explained in following meetings.

The familiarization is extending over at least five weeks.





SMOOTH "SAILING"—Sailplane is caught between sky and sea off Torrey Pines cliffs (near San Diego) at spectacular Glider Port, site for many years of annual Pacific Coast Mid-Winter Soaring Championships. In shot below, Gene Cain of GD/Convair (back to camera) directs ground traffic during Feb. 24-25 competition. —Photos by Bill Carter of GD/Convair.

Square Dancers Jam Hall For Hoedowner's Ball

Crowds of San Diego area whirlers and promenaders jammed the American Legion Hall at the second annual Tri-Association Officers' Ball sponsored by Convair Hoedowners Feb. 24.

"We couldn't begin to accommodate the square dancers who showed up," exclaimed Maury Scholz, CRA commissioner. "We expected a big crowd, but had no idea we'd have so many."

In fact, said Scholz, it was impossible to arrive at an accurate head count. But attendance was well over the 500 anticipated.

Don Browne, Hoedowners' caller, led activities as master of ceremonies. Fifteen callers spelled each other during the evening. Only six of the 15 were scheduled, said Scholz, but many other local callers dropped in to help out.

Scheduled were Vic Biewener and Bill Ragsdale of Palomar Association; Glenn Zeno and Ron East of the Heartland group; Bob Finley and Slim McInroe, San Diego Association.

Music was furnished by the Square Notes, a local group.

One of the highlights of the ball was the signing of a five-foot-long "friendship scroll." The scroll was originated by an Alamogordo, N.M., club and traditionally passed to square dancers coming the greatest distance to attend a club event.

When it left the Tri-Association Ball, it was in the hands of a couple from Saskatchewan, Canada!

Top Catches Win Buttons

Trophies and button awards will be awarded anglers for their top catches during 1961 at the coming CRA Fishing Club meet.

Commissioner Bob Menzie urges all winners to be present at the March 20 meeting at Gillespie Field Clubhouse, 7:30 p.m., when awards will be handed out.

Trophies will go to L. E. Thrall for his 141-lb. marlin and J. B. Harter for a 250-lb. black sea bass.

Button award winners are: Albacore—George C. Tweed, 37-lb. catch; W. C. Bowen, 31-lb., 2-oz.; H. M. Jones, 29-lb., 14-oz.; R. H. Feelery, 28-lb., 6-oz.; Richard Summers, 27-lb., 7-oz.; N. R. Keough, 27-lb.

Barracuda—Melvin DeWalt, 10-lb., 2-oz.

Bass — Besides Harter, Guy Himes, with a 6-lb., 2-oz. largemouth bass, and Wallace H. Reed, 5-lb., 8¾-oz., will receive awards.

Channel cat—Himes, 11-lb., 4-oz.

Crappie—Reed, 2-lbs., 8-oz.

Halibut—Harry W. Dvorak, 39 lbs.

Rainbow trout — Donald W. Murphy, 22 inches.

Yellowtail—L. M. Guess, 21-lb., 15-oz.

Mgt. Club Bowlers Compete April 15

Five-man teams from GD/Convair and GD/Astro will pit skill and luck in the annual interdivision Management Club bowling tournament set for April 15 at Clairemont Bowl. Action time is 10:30 a.m.

Management Club bowlers at Astro main plant may pick up entry blanks from Forest Erwin, ext. 3509; Dan Buckles, ext. 1691; Mike Brooks, ext. 1241, all Astro site. Astronautics entries at Plant 2 can be made through Larry Buckmaster, ext. 461, Plant 2.

GD/Convair and GD/Electronics keglers can contact Harry Lund, ext. 2321, Plant 1, for registration.

Reduced Movie Rate Offered at State

Reduced movie rates will be offered General Dynamics people at the State Theater, Euclid and El Cajon Blvd., starting March 26.

An I. D. card will entitle any General Dynamics employee to attend a show any night at 50 cents less than regular admission.

For listings, call the theater, AT-4-1428.

Yater Medal Play Slated

Entries open next week for CRA's top golf tourney of the year, the Yater Memorial, slated for the weekends of April 7-8, 14-15.

At least 150 are expected to tee off during the 36-hole medal play tourney at Fletcher Hills Country Club, said Ken Wulfemeyer, CRA commissioner.

Starting times may be obtained from next Monday (March 19) through March 30 by calling ext. 1705, Plant 1.

Established handicaps are required and a $1 entry fee will be payable at the first tee. Fees will go toward purchase of prizes.

Overall low net scorer will receive the Yater Memorial trophy which rotates from winner to winner each year on a perpetual basis. Other prizes are awarded low net and low gross winners in each of the four handicap prizes.

Last year's winner was Bill Whitley of Dept. 6 who shot low net score of 126 in the two rounds of play.

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Ralph Long was top low gross winner at the CRA golf tourney played March 3-4 at Circle R Long (Dept. 218) shot a 77 to lead the field.

Other winners in the 0-15 class were Gene Pollpeter (Dept. 31), second low gross, 80; Walt Rye (Dept. 120), first low net, 65; Norm Dahl (Dept. 45), 68.

In the 16-22 class Steve Tomaiko (Dept. 6) was first low gross, 84. Second low gross was tied up with 85s shot by both Carl Bieberdorf (Dept. 6) and Claude Lepper (Dept. 115). Another tie tangled first low net title. Clinch Crocker (Dept. 91) and Jim Hammitt (Dept. 3) both finished with 65s.

Jim Jansen (Dept. 14) was low gross winner in the 23-and-over class with a 93. Second low gross went to Paul Hood (Dept. 120) with 95. Merle Wood (Dept. 14) won first low net, 66; Dave Procter (GD/E), second low net, 68.

Camera Fans Enter Prints

Camera fans at GD/Convair will have a chance to display their prize photographs in the Industrial Recreation Council's annual photographic exhibit.

The exhibit will be held April 21 in the Photo Arts Bldg., Balboa Park, with a special showing of slides the same evening at 7:30 p.m. in the Puppet Theater.

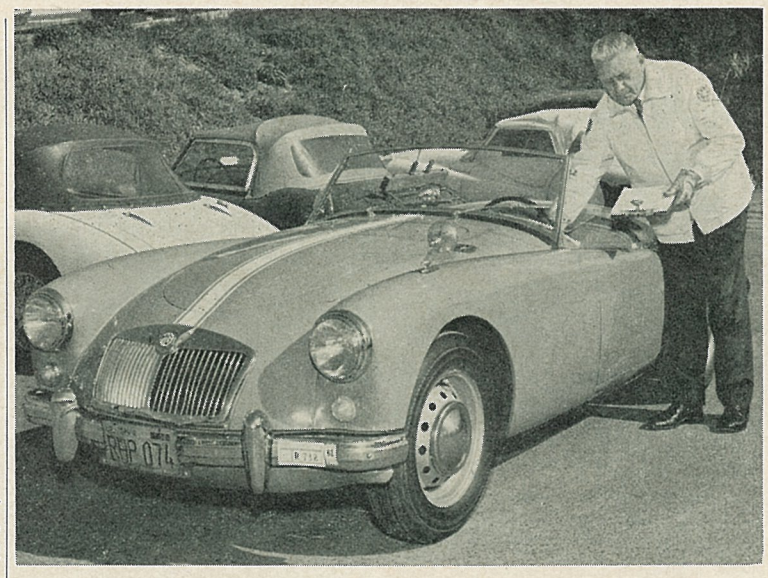
No more than four color slides or black and white prints may be entered by any one person. Entries must be made before April 7 at the office of Ralph Smith, Park and Recreation Dept., Administration Bldg., Balboa Park. Fee is 50 cents for four entries, payable at time of registration.

Late Dates in April Chosen For Bowling

Firm dates for the annual Convair championship bowling tournament have been set for the last two weekends in April.

Jim Hayman, CRA commissioner, said that play will be held at Pacific Recreation April 21-22, 28-29. Deadline for entries will be the middle of that month.

Entry blanks now are available from Hayman, ext. 1155, Plant 1; employee services, Bldg. 32, Plant 1; and Pacific Recreation.



DRY RUN—Bud Farnsworth, rallymaster for coming CRA-sponsored "Seat of Pants" sports car rally, snapped beside his MG with clipboard and stop watch after timing leg of route.

200 Sports Cars Anticipated For 90-Mile 'Pants' Rally

At least a couple of hundred sports cars will be wending their way over 90 miles of San Diego county roads at the Convair Sports Car Club's fifth annual "Seat of the Pants" rally March 25.

C. G. "Bud" Farnsworth, rallymaster, said that the running time would be about four hours, including a 30-minute rest stop.

First car out will be at 12:01 p.m. from Mission Valley Bowlero parking lot on Hwy. 80. The finish and trophy presentations will take place at Flying Hills Country Club, west of Gillespie Field on Cuyamaca Road in El Cajon.

Trophies will go to those finishing first through tenth-place in the guest overall class; first through fourth-place cars for GD/Convair and GD/Electronics people and members of their immediate families; first through third place in novice class (participants who have not received an award in a navigational rally in the last year).

A zero-leg trophy will be awarded to cars scoring a "zero" error in any one leg of the rally, regardless of class entered. Dash plaques will be given to the first 150 cars entering.

"As the name implies, the event is strictly a seat of the pants rally," explained Farnsworth. "No navigational equipment will be permitted except for a time piece. All odometers will be painted over."

Assisting Farnsworth on rally day will be Tom Kienholz, route chairman, and Dick Perkis, checkpoint committeeman.

Registration forms still are available at CRA office, Bldg. 32, Plant 1. Registration fees for guest classes are $1 for all preentries before March 19 and $1.50 for post-entries. There is no charge for GD/Convair or GD/Electronics drivers and navigators.

For additional information call Farnsworth, ext. 615 or 1778, Plant 1, GD/Convair.

'Convair Special' Tournament To Precede Table Tennis Meet

Table tennis enthusiasts at General Dynamics facilities in San Diego will have a chance to compete in a special class of their own at the coming open table tennis tournament this weekend.

The annual tourney is sponsored by GD/Convair under sanction of San Diego Table Tennis Association and the city park and recreation department. Matches will be held March 17 and 18 in Food and Beverage Bldg., Balboa Park.

GD/Convair, Electronics, Astronautics entrants may register for the 10 a.m. "Convair special" competition March 17 before start of play Saturday morning.

Entries will be taken after 9:30 a.m., said Pete Beyrer of CRA, spearheading arrangements. Entry fee for General Dynamics players is 50 cents each.

Other events in the two-day tournament are open to all San Diego residents at $1.25 per person. Classes include junior men's, A, B, C singles; B, C doubles; master singles and doubles; women's draw doubles; women's singles; mixed doubles. Novice singles is open to players with little or no tournament experience and barred to other players.

All competitors must wear regulation dress. Upper garment must be navy blue or black and the lower, medium grey or matching upper garment. Gym shoes must be worn.

Ride Club Members Slate 'Family Night'

Riding Club members at GD/Convair are laying plans for a "family night" at Gillespie Field Clubhouse Saturday (March 31).

Members will bring the food for a potluck supper served at 7:30 p.m. Dancing will follow to the music of the Color Guard combo until 11 p.m. Turner Albright will be at the piano; Hap Manion, drums; and Roy Wilson, saxophone.

Members are reminded that the Color Guard will ride at San Juan Capistrano this Saturday (March 17). Riding Club members are invited to attend a cookout that night at the parade grounds. Food will be furnished by the club with Willie Mansir (Dept. 180) in charge of the cooking.

Volleyball League Play to Commence

Volleyball league play for Convair and Astro teams in the Industrial League will swing into action March 21.

Pete Beyrer of CRA said that he will accept team entries from both divisions until March 15.

GD/Electronics volleyball players also are eligible to enter teams, he reminded. Rosters may include 10 players to make up six-man teams and alternates.

Regular games will be scheduled in either Muni Gym or the Federal Bldg. in Balboa Park. League schedule will be announced following organization of teams.

For registration call Beyrer at ext. 1245, Plant 1, GD/Convair.

'Photo Composition' Discussed For Club

Members and guests of GD/Convair's Camera Club heard Thor Nielsen, local photographer and well-known judge of photographic art, discuss pictures submitted at the regular monthly meeting, March 12.

"Let's Talk About Composition," a recorded lecture by the Photographic Society of America, will highlight the March 26 meeting, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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BADMINTON — Annual CRA-ARA tournament March 17, Federal Bldg., Balboa Park, 10:30 a.m. Call Bill Johnstone, ext. 1073, Plant 1.

BASKETBALL — Shop league winds up season play this Thursday and Friday nights, Muni Gym, Balboa Park.

BOWLING — Entries open for annual Convair championship tournament last two weekends in April. Call Jim Hayman, ext. 1155, Plant 1.

BRIDGE—Weekly session each Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Meeting March 26, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play every Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

FENCING — Workouts and instruction each Friday night, 7-10 p.m., YWCA, Tenth and C Sts.

FISHING CLUB — Button awards night March 20, Gillespie Field Clubhouse, 7:30 p.m.

GARDEN CLUB—Meeting tonight (March 14), 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — Registration opens March 19 for Yater Memorial Tournament, April 7-8, 14-15. Call ext. 1705, Plant 1, for starting times before March 30.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

MOVIES—Reduced prices for General Dynamics people begin March 26 at State Theater, Euclid and El Cajon Blvd.

PISTOL CLUB — Next shoot March 25, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (March 15), 8 p.m., Harbor Drive headquarters.

RIDING CLUB—Family night March 31, 7:30-11 p.m., Gillespie Field Clubhouse.

ROAD RUNNERS — Second anniversary outing to Yaqui Pass weekend of March 16-18.

ROLLER SKATING — Free skate night March 19 at Skateland, Front and G Sts. Tickets at employee services.

SPORTS CAR CLUB—Annual "Seat of Pants" rally March 25. Entry forms at employee services.

SQUARE DANCING — All-General Dynamics Hoedown March 31 hosted by Astronautics.

TABLE TENNIS—Open table tennis tourney March 17-18, Food & Beverage Bldg., Balboa Park. Registration at 9:30 a.m. Play starts at 10 a.m., March 17 for "Convair special."

VOLLEYBALL — Team entries for Industrial League accepted through tomorrow (March 15). Call Pete Beyrer, ext. 1245, Plant 1.

Carl Hornburg Double Winner

Carl Hornburg (Dept. 139) was a double winner at CRA Pistol Club matches Feb. 25. He emerged high scorer of the Police Course master class and the centerfire Short National.

His score for master class was 293; Short National, 258.

Joe Williamson (Dept. 401-5) took second place in the master with 289. W. G. Walker (Dept. 6) trailed by only one point to take third.

Other Police Course winners were—expert class, Ash Bishop (Dept. 401-5), first, 284. E. E. Bickar (Dept. 215) and Ralph Picard (GD/E-Dept. 6) both shot 283s with Bickar's bull's-eyes putting him in second spot.

R. G. Lair (Dept. 401-2) took first in the marksman class with a 244. Bill Mentlick, whose father is in Dept. 401-2, was second with 242.



WINTER WONDERS—Ice skaters from both GD/Convair and GD/Astro found Big Bear Lake area ideal for annual mid-winter trek. From left to right, top, are: toboggan riders, including Gil Hutter, Ruth Howell, Ken Corn, Jo Corn, Pearl Weickersheimmer and Jim Spain; cleaning off overnight snow for trip home; an ice skating pair; and a group of novice skiers including Bill, Jean and Diane Harrison and Susan Dempsey. At lower right are "Chefs" Jim Spain and Gil Hutter.

Larry Peterson Tops Modelers In Annual CRA Scale Contest

Larry Peterson swept the field at the CRA Aeromodelers annual scale contest for free flight models held March 3-4.

Peterson, a GD/Convair engineer, took the sweepstakes award and the prize for best World War I model with his Fokker EV.

Twenty-seven scale model airplanes were entered by San Diego and Los Angeles modelers in what was termed "the most successful meet in many years" by Don Larsen, club president.



NO. ONE—Larry Peterson of GD/Convair Dept. 6 was sweepstakes winner at Aeromodelers meet.

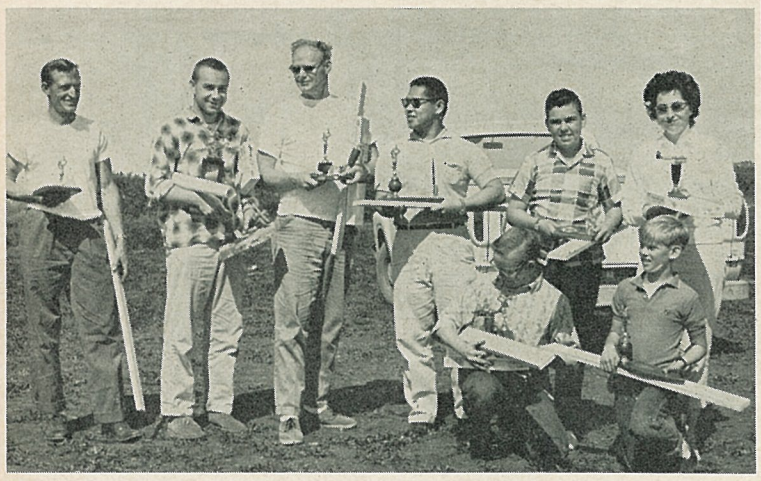
A calm and sunny day greeted the tiny planes as they soared aloft from Hourglass Field Sunday morning, in contrast to the blustery weather which washed out the Feb. 10-11 original dates. Over 100 spectators watched the flying part of the contest which determined the winners.

Best woman entrant was Mrs. Dale Miller of Los Angeles who flew a colorfully-painted Stinson O-49A. Best junior entrant was Harry Borden of Los Angeles. Don Small, also of Los Angeles, was second-place junior winner and also won the best jet award with his Opel rocket glider. He had the dubious honor of taking home the "crack-up" prize of a smashed plane neatly mounted on a painted can when his glider was demolished on his last attempted flight.

Walt Mooney of GD/Astro Dept. 500 won best low-wing award. Best World War II award was won by a Hellcat F6F built by Dale Miller of Los Angeles.

First place in the open division went to Kingley Kau of Los Angeles for a model of the German Bucher Jungmeister bi-plane.

Fudo Takagi of GD/Convair, Rolland Dexter of General Atomic, and P. Shimazae, a Chula Vista school teacher, judged entries.



TOP MODELERS—Smiling group of high-placers in recent CRA Aeromodelers' annual free-flight scale contest were snapped by Fudo Takagi of GD/Convair after trophy presentation at Hourglass Field. From left, Glen Snavely of Los Angeles, second place open division; Larry Peterson (Dept. 6), sweepstakes winner; Dale Miller, Los Angeles, best World War II; Kingley Kau, LA, first in open division; Bob Olivera, LA, third-place junior; Mrs. Miller, best woman entry. Kneeling are Don Small, second junior, and Harry Borden, first junior, both from LA.

Sports & Recreation

Road Runners Planning Return To Yaqui Pass Near Borrego

Road Runners, GD/Convair trailer group, will be gathering, 100 strong, at the site of their first outing this weekend, March 16-18, as they celebrate their second anniversary.

They will go again to Yaqui Pass, near Borrego Springs, to relive pleasant memories piled up during the last two years of trailer jaunts. They intend to make the pilgrimage to Yaqui Pass an every-year occasion as they mark their founding.

A huge birthday cake will climax the fried chicken potluck Saturday night. Anyone from GD/Convair and GD/Electronics who would like to join in the festivities that night is invited to be there by eating time, 4:30 p.m.

The evening's program will include a talk by the forest ranger assigned to the area, a showing of slides and movies of outings during the last year, and entertainment around the camp fire.

Side trips to Peg Leg Mine and the Split Mountain area are scheduled during the weekend, according to plans of Ivar Peterson, wagonmaster for the trip. Assisting Peterson is Ed Minor.

For information call Ruth Peterson at HO-6-6582.

'All Dynamics' Dance Planned

Astronautics Recreation Association's new Clubhouse will be the scene March 31 when an "All General Dynamics" square dance jamboree is held with participants from GD/Astro, GD/Convair, and GD/Pomona.

Expected are from 50 to 60 dancers each from Convair and Pomona and 70 to 80 from the host Astro Nauts club.

Participants will attend a dinner preceding dancing, also to be held at the clubhouse. Honored guests will include the chiefs of employee services from each division as well as incoming and outgoing recreation association officers, according to Marty Stutz, commissioner at Astro.

From 8 to 11 p.m. the Square Notes will play for dancing. Van Vander Walker will serve as emcee and will join guest callers from all clubs for the evening's festivities.

Father-Son Tennis Team Wins Doubles In Joint Tourney

Sixty-eight GD/Astro and GD/Convair tennis fans played in ARA Tennis Club's recent novice tournament at Morley Field courts.

Winner of men's singles was Bill Rothe, GD/Astro Dept. 596, who downed Gene Borelin, Dept. 591, 6-3, 6-3, while Betty Shuler, wife of Astro's Carl Shuler, Dept. 170, won women's singles 6-2, 6-3 over Ruth Bennett, Dept. 355-2.

A father-son team of Robert (GD/Convair Dept. 31) and Dennis Trout captured the doubles title, defeating Rothe and Mike Getvay, GD/Convair, Dept. 6.

In men's consolation singles, Cecil Norwood, GD/Astro Dept. 531, eliminated Bob Johnson, GD/Convair Dept. 6, 6-1, 6-2.

Winners and runners-up in all events were presented trophies.

Radio Club to Vote On New Secretary

A special election to fill the post of secretary will be held at the CRA Radio Club meeting tomorrow night (March 15).

The newly-elected officer will fill out the current term of Dorothy Oldfield, who has resigned.

Jim Lack, CRA commissioner, reminds all GD/Electronics members and prospective members that they are included in all CRA scheduled events. Meeting will be held at 8 p.m. at the Harbor Drive headquarters.

Skaters Frolic During Annual Trek to Snow

Even a script writer couldn't have dreamed up a better scene for the annual Astronautics-Convair mid-winter excursion to Big Bear Lake, sponsored by ice skating groups.

About five feet of snow covered slopes and valleys when the General Dynamics crowd, 108 strong, converged on the area Feb. 23. Snow plows had done their work, so chains were not needed. By departure time on Feb. 25 another foot of snow had been added.

Wawona Lodge was reserved entirely and served as headquarters. Breakfast both days, dinner on Saturday, hot snacks in between and a pizza party Saturday night were provided. Gil Hutter and Jim Spain presided at the stoves and fed the crowd in shifts.

Expert and novice skiers found everything to their liking Saturday and Sunday. Family tobogganing, snowball fights and sight-seeing drew others.

Sunday morning Iceland was reserved for an hour for group skating. Many remained far beyond this time to skate.

The snowfall came late Saturday afternoon and through the night, with Sunday again breaking clear.

Badminton Tourney To Begin March 17

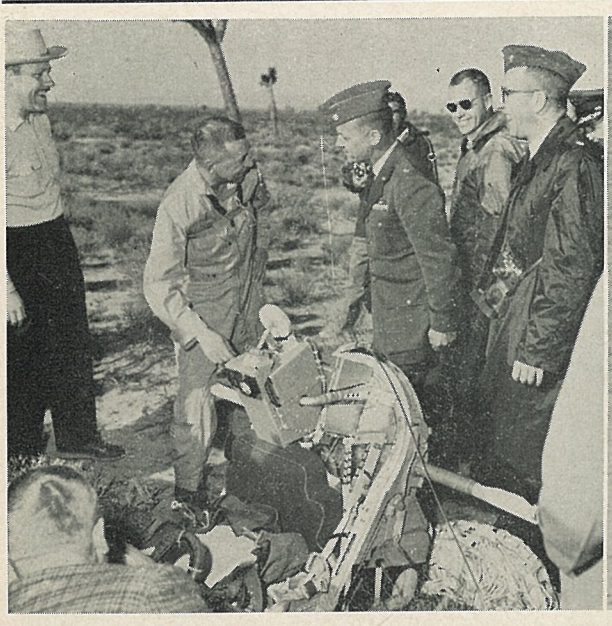
Registration is open to all badminton players at GD/Convair who plan to compete in the annual CRA-ARA tourney this Saturday (March 17).

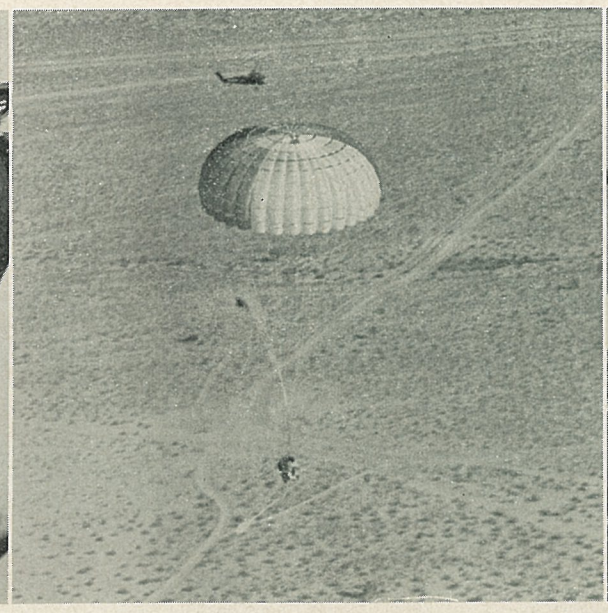
Convair and Astro badminton groups will start play at 10:30 a.m. in Balboa Park's Federal Bldg.

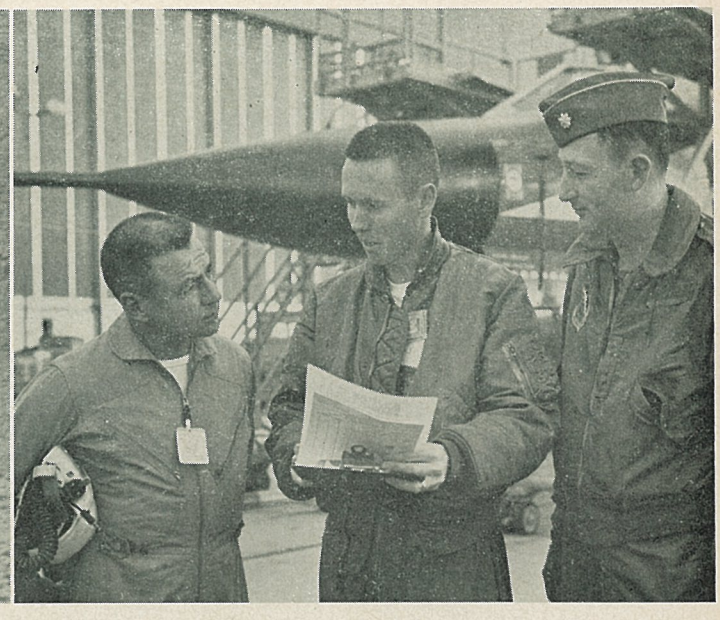
The tournament is open to all B and novice players from Astro and Convair. It will include men and women singles and doubles events, and mixed doubles, said Bill Johnstone, spokesman. No entry fees will be charged.

Trophies will be awarded in all events. Additional information and registration is available through Johnstone at ext. 1073, Plant 1.

The CRA group holds regular play each Tuesday from 7 to 10 p.m. in the Federal Bldg.







SUCCESS—At left above C/WO Edward J. Murray is greeted by Lt. Col. George Harchalk, ASD, and Lt. Col. Earl W. Udick, human factor chief for SAC at Omaha, seconds after ejection at 565 mph at 20,000 feet in B-58 escape capsule over Edwards AFB. At far left is Charles Widaman, GD/FW project captain. In center, helicopter hovers as chute settles. At right, Murray goes over check list with Robert W. Sudderth, civilian project engineer, and Major Fitzhugh L. Fulton, test pilot.

AF Ex-Combat Parachutist Ejects Via Capsule From B-58 at 565 mph

First manned ejection in a B-58 escape capsule—by an Air Force parachute tester in a Hustler speeding along at 565 mph and 20,000 feet over Edwards AFB—paved the way for a series of supersonic ejections this spring.

"The supersonic series will climax with a manned ejection at Mach 1.3 at 35,000 feet," said Chuck Widaman, GD/Fort Worth project engineer in charge of the project.

Chief Warrant Officer Edward J. Murray, ex-combat parachutist, reported succinctly after his historic 7-minute, 8-second descent in the capsule Feb. 28: "No sweat—I feel fine."

He was blasted 250 feet in the air from second station by two rockets with about 10,000 pounds of thrust. Maximum vertical acceleration on the occupant was 13-plus G's, incurred in a fraction of a second.

A small drogue, or stabilizing parachute flared as the capsule and occupant—weighing a total of 701 pounds—entered the tornadic slipstream.

During a 5,000-ft. free-fall, the capsule dropped at 250 feet a second.

At about 15,000 feet, an automatic air-pressure device triggered the 32-foot main chute, wafting the capsule to earth at an average drop rate of 27 feet a second.

Murray's condition was described as "excellent" by Air Force physicians who examined him immediately after the test.

"It was a much easier, nicer and gentler ride than I anticipated," said the twice-decorated combat veteran of 14 months in Europe from Normandy through VE Day.

"I can assure you it's a lot easier than open-seat ejection."

The wiry Murray said he was comfortable going down after the main parachute opened and began lowering him to the ground.

"I had no sensation of turning, spinning, or falling during the free fall before the chute opened," he said.

The ejection was Murray's 547th "jump"—421 of which have been made testing new chutes.

Maj. Fitzhugh Fulton, veteran bomber test pilot who was formerly B-58 evaluation pilot at GD/Fort Worth, piloted No. 2 on the mission.

In the rear cockpit completing a check list of a dozen instruments was Robert Sudderth, civilian engineer and project supervisor. It was Sudderth who gave the pre-arranged signal for Murray to batten down and blast out.

The successful manned shot culminated a series of subsonic ejections with both dummies and chimps at Edwards, and a static ejection at Fort Worth.

Since 1953, except for a year in Japan, Murray has been assigned to the parachute branch of the Aeronautical Accessories Laboratory of what now is the Aeronautical Systems Division, Wright-Patterson Air Force Base, Dayton, Ohio.

Widaman's team is now readying Hustler No. 2 for the series of supersonic ejections, which will eventually result in what will probably be the fastest controlled aerial ejection in history.

Widaman said several ejections at Mach 1.3 at 35,000 feet and Mach 1.6 at 45,000 feet would precede the manned supersonic "bailout."

The project captain reported that the 25-man GD/Fort Worth team of engineers and technicians has done an "outstanding" job throughout the program at Edwards.

"We've also received top-drawer help from Stanley Aviation (manufacturers of the capsule), and Air Force personnel from the Air Force Flight Test Center at Edwards and the Aeronautical Systems Division," Widaman said.

The B-58 capsule is slated for installation on all combat Hustlers.



NICE FIT—Air Force personnel, from left, H. F. Magruder, ATC, E. P. Fitzgerald and Doug Palmer, SPO, check out MTU pilot's capsule slated for eventual delivery to 305th Bomb Wing.

B-58 Capsule Trainer Built at FW Will Be Shipped to Indiana Base

A pilot's escape capsule and canopy trainer slated for use in the 305th Bomb Wing passed Air Force inspection here this month.

The new Mobile Training Unit (MTU) will be retained inplant for Air Force maintenance training classes before being shipped to the Peru, Ind., base in late March.

Maintenance personnel from the 43rd Bomb Wing at Carswell AFB will join 305th airmen—along with others—for the orientation sessions.

Designed by engineering and constructed by development departments at General Dynamics/Fort Worth, the trainer will be used for both pilot and crew training in the B-58 escape capsule.

C. L. Parkin, senior design engineer-MTU, was in charge of the inspection at GD/Fort Worth, assisted by E. L. Tucknies, assistant foreman Dept. 65, and N. G. Jones, Dept. 7-2.

Representing Air Force were: Doug Palmer and Ed Fitzgerald, Systems Project Office; Maj. Stanley G. Phelps, Headquarters Air Training Command; CM/Sgt. H. F. Magruder, Chanute AFB; and F. H. Wilhoite, Air Force plant representative's office at GD/Fort Worth.

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Panel Used to Explain Capsule Lights Up 'Like Christmas Tree'

A training panel at General Dynamics/Fort Worth equipped with the lighting gadgetry of a Broadway marquee is being used to show Air Force personnel what happens mechanically during a B-58 capsule ejection.

The new Mobile Training Unit (MTU) in educational services shows virtually every mechanical step that takes place during pre-ejection, ejection, and recovery steps of a "bailout."

Initiators on the capsule are indicated by red stars, while white and yellow dots are used to show location of safety pins. Hot gas is indicated by red lines, pressurized air by blue, and oxygen by green.

"As the ejection sequence is reeled off, different colors appear on the panel to indicate the system sequence under discussion," explains Jim Ancy of Dept. 3-3, who will instruct Air Force classes which were slated to start here March 12.

Real eye-catching part of the panel are the "hot gas" and "oxygen" parts of the sequence. Routes of both are traced by "flicking" lights which show direction of flow. The effect is created by a motor-driven relay system which sends voltage to desired points on the panel.

The panel further traces mechanical action that occurs as the capsule switches to snorkel air as it nears 10,000 feet, and finally lands.

"When the panel is all lit up, it looks something like a Christmas tree," Ancy said. "It's been a very effective teaching aid in the maintenance, inspection, installation and safety classes we've held on the capsule."

The panel was evolved through the cooperative effort of engineering mobile training unit group, development department and educational services.



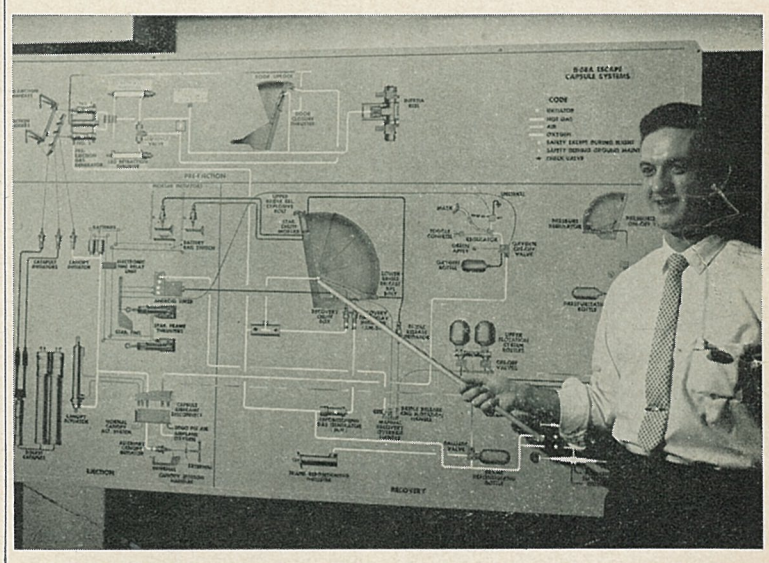
DISTRACTION—Donna Lonneke, 5, daughter of GD/Astro's J. A. Lonneke stationed at Altus AFB, was in dentist's chair during Mercury orbit, but watched TV just the same! Dentist is Dr. C. G. Ruffel and aide is Mrs. Virginia Gudfundson. Photo by GD/Astro's George Smith.

Ehricke Addresses Propulsion Meeting At Cleveland, Ohio

Krafft A. Ehricke, director of advanced studies for General Dynamics/Astronautics, was one of the main speakers at the National Propulsion Meeting held in Cleveland, Ohio, last week.

The technical sessions dealing with latest advances in aerospace propulsion were co-sponsored March 8-9 by the Institute of the Aerospace Sciences and National Aeronautics and Space Administration's Lewis Research Center. All meetings were limited to members with secret classification.

Ehricke's subject was "Propulsion Systems for Lunar Landing and Takeoff."



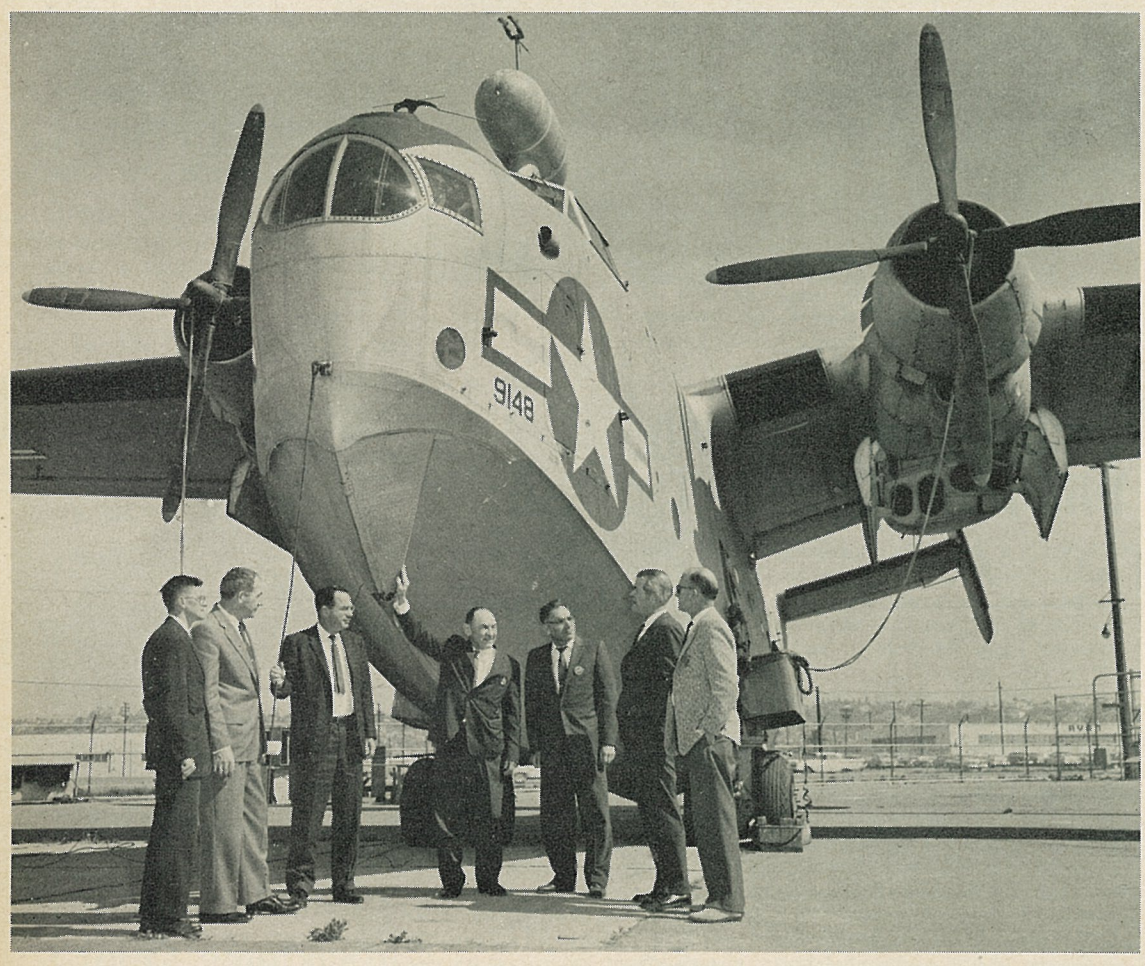
STARTS HERE—Jim Ancy of educational services explains mechanical functions of B-58 capsule systems to Air Force personnel on new brilliantly lighted panel.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 7 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, March 28, 1962



RECOLLECTION—Years of seaplane experience are represented in GD/Convair group examining Martin PBM stored at seaplane ramp for future flying boat studies. From left, W. B. Barkley, hydrodynamics group engineer; N. R. Keough, experimental superintendent; H. E. Brooke, chief of hydrodynamics; W. K. Ebel, special assistant to president; A. R. Lambert, chief of aircraft preliminary design; Sam Shannon, manager of engineering flight test; B. A. Clemmens, foreman in experimental.

American's First 990 Flies NY-Chi. To Begin Service

First Convair 990 jetliner went into domestic passenger service last week over American Airlines' network.

The world's newest airliner sped between New York and Chicago on its initial scheduled run March 18.

The Asta Astrojet, as it has been christened, will extend operations within a month to link New York-St. Louis, New York-Detroit, New York-Dallas, and Dallas-Chicago.

Current service with the latest model Convair jetliner calls for two round trips daily between New York International Airport and Chicago's O'Hare Field. Scheduled flight time westbound is two hours and 10 minutes; eastbound, one hour and 48 minutes.

A third 990 round trip will be added between the two cities on April 1, and on the same date American expects to inaugurate two daily round trips between New York and Detroit, and one daily between New York and St. Louis. Service between New York and Dallas and Dallas-Chicago will start in mid-April. By summer, Newark and Cincinnati also will have 990 service.

American's 990 accommodates 103 passengers, 46 in the four-abreast first class cabin forward, including a four-place lounge, and 57 in the five-abreast cabin aft.

The 990 Astrojet was constructed at San Diego by General Dynamics/Convair to American's specifications for a second-generation jet transport capable of operation over intermediate-range route, with frequent takeoffs and landings. Built into the airplane is "extra beef" including thicker fuselage and wing skins to give it the rugged dependability and greater strength required and for which Convair airliners are noted.

American's fifth 990 left GD/Convair's San Diego plant on delivery flight a week ago.

Corp. Offices Consolidated in New York City

Consolidation of General Dynamics corporate headquarters in New York City was completed this month with the transfer of key executives from San Diego, final step in a strengthening move begun some months ago.

Roger Lewis, General Dynamics president since Feb. 22, made the announcement March 16, effective at once.

R. H. Biron, vice president, will be the only corporate officer remaining at San Diego.

Among those transferring to New York were E. J. Williams, senior vice president-manufacturing; C. L. Meador, vice president-contracts; K. M. Smith, vice president-program development; and J. P. Hamill, director of research and engineering administration.

In line with Lewis' announcement that "all efforts will be made to absorb remaining corporate staff personnel into General Dynamics Divisions in the San Diego area," a placement service is in operation.

Among those transferring immediately to divisions were Robert T. Conley, joining GD/Convair as director of commercial sales; Kenneth C. Gordon, as assistant manager - commercial sales; and David Downey, as assistant sales manager - domestic. Also, S. Y. Johnson, former executive assistant, is joining GD/Astronautics as assistant to the director of management systems, George Robertson.

GD/Astronautics, hard pressed for office space at its home plant on Kearny Mesa, has been offered space on the lower floors of Bldg. 19, but at press time no

(Continued on Page 2)

Top Students In Finals For Scholarships

Six top scholars, finalists in the current General Dynamics/Convair Management Club contest, will be announced some time this week, said Ted Houk, committee chairman.

Houk took over responsibility of the annual scholarship contest from Keith Blair, who has transferred to GD/Astronautics.

Thirty-one San Diego area students, who had survived first-round elimination last month, took second-round elimination tests March 17. Final judging is scheduled for April 11.

Results of the written essay and college aptitude test determined the six eligible for the two top $1,000 scholarships going to a son and a daughter of GD/Convair or GD/Electronics. Runners-up each receive $100 U. S. Savings Bonds.

Panel of judges who will be assisting the committee in final selection includes John B. Smyth, president of Smyth Research Associates; Joseph Williams, regional manager of Sears, Roebuck & Co.; W. M. Kidwell, placement officer at San Diego State College; John W. Brown, California Western University registrar; and Mrs. Betty Marshall Graydon, U. S. commissioner.

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Study For Navy to Seek Seaplane Improvement

General Dynamics/Convair soon will start renewed seaplane studies which are expected to be accomplished under a study contract from the Bureau of Naval Weapons.

J. H. Famme, GD/Convair president, explained that preliminary work will be primarily engineering studies and towing basin tests. Later, experimentation will be conducted on full-scale planes, with the study program projected to extend over a period of a year.

Assigned to the study program are the cream of GD/Convair's seaplane veterans whose experience with flying boats dates back to the PBY, YF2Y, R3Y eras.

D. H. Bennett, assistant chief engineer-advanced design, who has top responsibility, said, "Studies which will begin within the next month could culminate in design of a new seaplane configuration for the future."

Bennett himself has wide experience in the seaplane field. He was assistant project engineer on the YF2Y, world's only supersonic water-based plane. However, present thinking in GD/Convair is toward design of a propellor-type seaplane.

Areas which may come under investigation include engine installations, ski configurations to prove out rough water devices, pitch dampers, and a series of component tests.

H. E. Brooke, chief of hydrodynamics, whose group has been deep in seaplane studies for several months, said, "In today's limited war concept, a definite need exists, now more than ever before, for a reliable seaplane. I have no doubt that with the

(Continued on Page 2)

GD/Electronics Appointments Made Public

In recent appointments within General Dynamics/Electronics at San Diego, J. Walton Colvin has been named manager of plans and programs, William Lawrence, general manager of the San Diego operation, has announced.

At the same time, Hershall F. Johnson has come from GD/Pomona to assume the post of controller.

Colvin, who had been with the Bendix Corp. since 1942 in various marketing executive positions, will be responsible for marketing GD/Electronics' radar electronic and data processing lines.

He was manager of marketing with the Bendix Field Engineering Corp. Earlier with the Radio Division, he served as director of requirements research and planning, manager of market research, manager of government sales, and merchandising manager.

During World War II Colvin served as technical adviser to the commanding general of the U. S. Army Air Force in the Mediterranean theater.

Johnson was supervisor of industrial accounting at GD/Pomona before his transfer to the San Diego GD/Electronics facility. He joined General Dynamics first at Convair in 1942 and was general accounting supervisor be-

(Continued on Page 2)

Saturday Schedule For Salvage Set

Saturday sales schedule for GD/Convair and GD/Astro salvage yards is:

GD/Convair—March 31 and April 14.

GD/Astro—April 7, 21.

Both yards are open to General Dynamics employees from 8 a.m. until noon on alternate Saturdays.

April 18 Meeting of Management Club To Mark Group's 20th Anniversary

A jam-packed evening is on tap for General Dynamics/Convair Management Club members at their April 18 meeting which marks the 20th anniversary of the group.

Highlights will be presentation of the annual President's Award, top cost reduction honor, and scholarships to the six finalists in the Management Club's 1962 scholarship contest.

Nominations of club officers and board of control will be announced by W. O. Zook, chairman of the nominating committee. Election will be held at the May meeting, reminded R. W. Dill, current president.

Also on the evening's program will be a featured speaker, H. Leith Loder, well-known lecturer. His topic will be "Where Do We Grow From Here?"

The meeting on April 18 will be at Catamaran Hotel in Mission Beach. Tickets, at $2.50 each, are available at regular outlets. Manufacturing control is sponsoring.



KICKOFF—Marking month-long observance of 20th birthday of GD/Convair Management Club, new plaque bearing all club presidents' names is handed to Roy Dill, current prexy, by W. R. Bruce, manager of material, at St. Patrick's ball. Material sponsored annual dance attended by at least 500 members and guests.

Log Book Entries



REWARDED — Sporting new 25-year service emblems are David A. Pearce, Convair Dept. 400-4, left, and Joseph J. Szakacs, Dept. 5, GD/Electronics.

Service Emblems

CONVAIR

Service emblems due during the period March 16 through March 31.

Twenty-five-year: Dept. 24-2, W. J. Lawr; Dept. 400-4, D. A. Pearce.

Twenty-year: Dept. 1-31, G. A. Lewis; Dept. 2-4, Norrine Hoberg; Dept. 16-4, K. O. Hanson; Dept. 17-0, H. J. Richardson; Dept. 91-0, J. L. Terrien; Dept. 123, F. C. Brennecke; Dept. 134, M. D. Poe; Dept. 148, L. J. White; Dept. 171, G. H. Palmer; Dept. 400-1, A. W. Schurr; Dept. 401, R. H. Davis, F. A. Jolly.

Fifteen-year: Dept. 24-2, Lois E. Martin; Dept. 25-7, R. F. Geurin; Dept. 101, T. L. Freeze; Dept. 115, M. A. Ambrose; Dept. 140, B. W. Collins, Ida C. Jendrossek; Dept. 145, H. G. Jones, J. M. Vazquez; Dept. 148, D. E. Leinweber; Dept. 401, M. S. Corbeille, S. W. Graves, E. G. Peters.

Ten-year: Dept. 3-1, O. R. Thompson; Dept. 6, A. L. Holton, R. C. Kemp, H. D. Marks, K. A. Morefield, W. A. Page, R. W. Spence, J. G. Willis; Dept. 14-4, H. B. Collins, M. L. Humphreys, A. R. Nelson; Dept. 16, B. F. Dalbo, Doris P. Harter, M. R. Stogdill, Frances Z. Weismantel; Dept. 21, B. T. Burnett, M. A. Caldwell, K. C. Weldy; Dept. 25-1, Ferman Carrillo; Dept. 31, B. A. Wagner; Dept. 34, Barbara Bingham, Clara M. Cox; Dept. 48, N. L. Pendergrass, Ruth H. Romero, Lena B. Royalty; Dept. 91, Elsie F. Snyder.

Dept. 115, J. B. Richard; Dept. 116, Virginia Hobbs; Dept. 119, B. E. Hill; Dept. 129, Esther B. Goodwalt; Dept. 137, B. E. McLane; Dept. 146, R. O. Jackson, J. J. Perkins; Dept. 148, R. A. Johnston; Dept. 149, Florence B. La Rochelee; Dept. 160, Constance G. da Silva, W. C. Johnson, A. G. McCurdy; Dept. 170, C. E. Anderson; Dept. 171, V. H. Anderson, R. W. Crockett, Luther Gordon, P. R. Herrera, L. E. Roux, C. W. Watson; Dept. 180, K. E. Yzelman.

Dept. 192, C. E. Adams, W. R. Ingalls, J. O. Kay, R. L. Rasmussen, E. L. Stark, Mildred C. Tsaousis; Dept. 215, J. W. Humphries Jr., W. E. Reader; Dept. 216, Elpidia R. Henley; Dept. 223, D. B. Broach; Dept. 400, G. G. Dodd, A. J. Fritz, Sophie G. Pina; Dept. 401, J. L. Jacobi, Margaret R. King, W. J. Ryan, C. L. Weathers.

GD/ELECTRONICS

Ten-year: Dept. 6, L. F. Kruse, D. K. Woods.

Rider-Driver

CONVAIR

RIDES WANTED—Hours: 7:30 a.m. to 4:30 p.m. From 10707 Jamacha Blvd., Spring Valley to Plant 1. Ronald Remsberg, home phone, HO-5-1886, or plant ext. 1133.

Hours: 7:30 a.m. to 4:30 p.m. From 5735 Tex St. (near Fletcher Parkway and Jackson Blvd). La Mesa to Plant 1. Polly May, plant ext. 1892 or 2521.

* * *

RIDERS WANTED—Hours: 7:30 a.m. to 4 p.m. From 6158 Nelson (off College & University) to Plant 1, Mary Mitchell, home phone JU-3-3322, evenings, or plant ext. 1203.

Hours: 7:30 a.m. to 4:30 p.m. From 6903 Ely Circle (Encanto) to Plant 1. Fred Buffington, home phone 262-2758, or plant ext. 1725.

Hours: 8:30 a.m. to 5 p.m. From Carlton Hills to Plant 1 or 2. Gil McCoy, home phone 448-2240, or Plant 1, ext. 1071.

Hours: 7 a.m. to 3:30 p.m. From Imperial Beach to Plant 1. C. Di Stefano, home phone GA-4-8062, or plant ext. 1735.

Hours: 7:30 a.m. to 4:30 p.m. From Solana Beach, Del Mar, Rancho Santa Fe area to Plant 1. H. Laue, home phone SK-5-4716, or plant ext. 1005/1006.

Hours: 7 a.m. to 3:30 p.m. From 54th St. & University Ave. to Plant 1. Bernard B. Reynolds, home phone JU-3-1761, or plant ext. 1509.

Personals

SAN DIEGO

I am deeply grateful to Convair friends for the many expressions of friendship and kindness shown to both my husband, Reg Coulston, and myself.

Margaret Coulston, Dept. 100.

Promotions

CONVAIR

Promotions to or within supervision effective March 12.

Dept. 6-300, Engineering: To hydraulics group engineer, F. J. Banks.

Dept. 20-0, Operations Planning: To chief of systems & procedures, B. W. Kahla.

Dept. 31, Experimental: To foreman, B. N. Waite.

Dept. 48-09, Quality Control: To quality control administrator, C. Wallman.

GD/ELECTRONICS

Dept. 3, Reliability & Quality Control: To inspection asst. supervisor, E. C. Martin.

Dept. 5, Engineering: To value control coordinator, M. M. Reeder.

Retirements

CONVAIR

FREEMAN—Hugh B., Dept. 6-900. Seniority date June 28, 1956, retirement effective March 9, 1962.

HARTER—Linus, Dept. 117. Seniority date Feb. 10, 1947, retirement effective March 7, 1962.

HATELY—Edgar N., Dept. 48-52. Seniority date Jan. 9, 1951, retirement effective March 9, 1962.

JANKE—Julius, Dept. 25. Seniority date July 30, 1951, retirement effective Jan. 31, 1962.

NEWELL—Harold F., Dept. 401-7. Seniority date June 12, 1952, retirement effective March 5, 1962.

QUIRK—Elmer J., Dept. 128. Seniority date Nov. 4, 1953, retirement effective March 2, 1962.

WILLS—Charles S., Dept. 400. Seniority date June 2, 1936, retirement effective March 1, 1962.

GD/Astro, Convair Compete in Tourney

GD/Astro and Convair badminton enthusiasts turned out en masse for the ARA-CRA sponsored tournament held March 17.

Top honors in women's singles went to Donna Day, Astro Dept. 170-1, over Ann (Mrs. Cliff, Dept. 223-2) Hewitt, while Noel Rozell, Astro Dept. 175-1, downed Dan Bain, Dept. 141-3, in men's singles.

Rozell and Ray Vredenburgh, Astro Dept. 141-4, topped Convair's Sam Sotelo, Dept. 198, and Gene Borlin, Astro Dept. 591-1, in men's doubles, with Bill McHorney and Leon Fiegenbutz, Astro Depts. 551-2 and 595-1 respectively, winning the doubles consolation round robin.

Channing and Donna Day yielded to Cliff and Ann Hewitt in mixed doubles, while McHorney downed Fiegenbutz in men's novice class.

GD Corporate Office Consolidated in N.Y.

(Continued from Page 1)

move plans had been detailed.

* * *

Harlon D. Filloon, director of industrial relations at GD/Pomona, has been named Corporate Director of Industrial Relations for General Dynamics.

Filloon assumed his duties last week at the Corporate office in New York.

Filloon joined Convair in 1942 in industrial relations, was wage and salary supervisor when appointed manager of industrial relations at Pomona in 1951.

Master Move Group Headed by Davant

J. K. Davant, manager of resources planning and control, has been named chairman of the master move group at General Dynamics/Astronautics.

Reporting to G. M. Robertson, director of management systems, Davant replaces Charles Marvin who has retired.

General Dynamics NEWS

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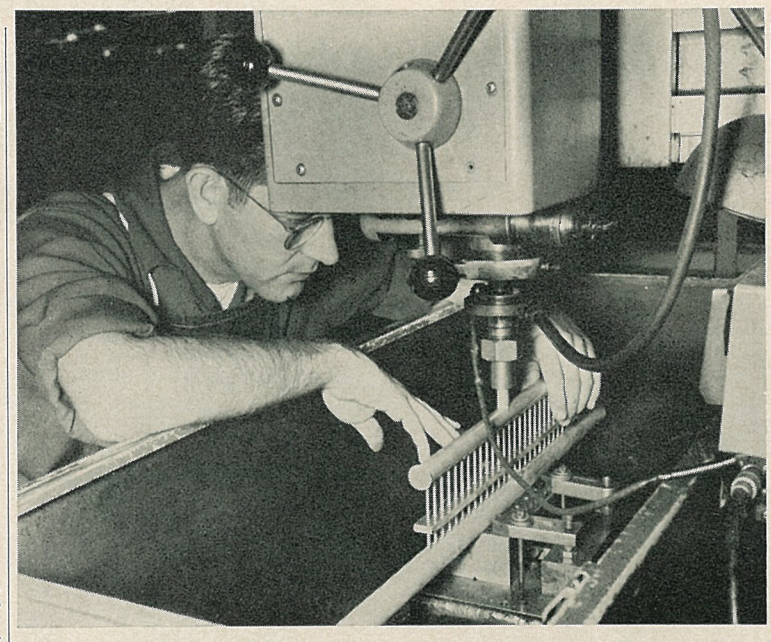
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"PICCOLO" PUNCHING—R. G. Sanders of GD/Convair Dept. 401 attaches unique electrode tool to Elox machine for multi-drilling of holes in tubes by electro-discharge method.

Drilling Time Drastically Cut With Multi-Electrode Tool

A unique use of an advanced machining method is being developed at General Dynamics/Convair to drastically reduce time and cost of drilling holes—up to 100 in one operation.

A multi-electrode tool, conceived through combined efforts of applied manufacturing research and development, tooling, and production, is now in use on the Elox electro-discharge machine. It is machining air bleed holes in anti-icing "piccolo" tubes for the 990, eliminating all hand operations.

The new process can produce burr-free, round, undimpled holes in a fraction of time formerly used. Instead of the conventional one-at-a-time drilling, holes in quantity can be punched in a blink of an eye.

Each process takes about a minute and a half!

And, the inside of the tubes are as smooth as silk. Now there are no extruded burrs or dimpling of the tubes, which often takes as long as 45 minutes to sand manually.

The fast drilling method of the over 100 tubes needed for the anti-icing system of each 990 will save about $500 a plane figured on direct labor costs, according to preliminary estimates.

Electrode tools have been made to fit each tube length and hole requirements. The dozens of tubes range from a few inches to six feet in length, with six to 28 holes to the tube. However, the machine could drill 100 at a time, if necessary.

Basically, the method removes metal by high frequency electrical discharges, explained Don Weisinger of applied manufacturing research and development. During the operation, the cutting process consists of a very rapid succession of individual sparks of high current density.

The work material used for the "piccolo" tubes wears away at twice the rate of the material of the tool. Under usual circumstances, one tool can be used about 2,500 times before the electrode material, normally yellow brass, is depleted.

The process can be used to machine any electrically-conductive material, regardless of hardness.

GD/Convair tooling is using the method for other drilling operations, including drilling of holes in certain Boeing sub-contracted parts.

Study For Navy to Seek Seaplane Improvement

(Continued from Page 1)

vast amount of talent and experience available at GD/Convair, we can evolve exactly what the Navy has in mind."

A. R. Lambert, chief of aircraft preliminary design, will head efforts of design engineers. Maintenance and fabrication will be under responsibility of N. R. Keough, experimental superintendent.

Two GD/Convair executives, with perhaps more experience in seaplane development than any in industry today, will keep in close touch with the expanding project. W. K. Ebel, now special assistant to Famme, was vice president-engineering at Glenn L. Martin Co. during construction of the first PBMs about 1940. At the same time he checked out E. D. "Sam" Shannon as PBM test pilot.

Shannon, whose career in flight testing at GD/Convair extends back to 1943, has test or service flown practically every type of aircraft, including the old Catalinas. He is now manager of engineering flight test at GD/Convair.

Don Germeraad, chief engineering test pilot at GD/Convair, probably would fly a new experimental type seaplane if the time comes. He was pilot on the first demonstration flight of the Convair-built Navy R3Y Tradewind turboprop seaplane transport in the fall of 1954.

GD/Convair can draw on almost half a century of experience in the design and production of flying boats. Since 1911 when Glenn Curtiss made his first landings and takeoffs on San Diego Bay in a pontoon-fitted biplane, Consolidated Aircraft and its antecedents, later to become GD/Convair, have pioneered in the seaplane field.

The Commodores of the early '30s gave way to the improved XPY-1 version, which developed later into the P2Ys. PBYs built after the company's move to San Diego, were known as the workhorse of the world because of their dependability. Many can be found still in use in out-lying areas around the globe.

The R3Y program at the San Diego facility came during the early 1950s. At about the same time design and production of a supersonic water-based plane, commonly known as the Sea Dart, was done at GD/Convair. First flight was in 1953.

Shades of the R3Y returned to the seaplane ramp a couple of weeks ago as two Martin PBMs were hoisted ashore, first to grace GD/Convair's original seaplane facility in more than six years. They were brought across the bay from North Island Naval Air Station and will be on loan to GD/Convair during the full-scale experimental work.

The original tow basin PBM model has arrived at the San Diego plant and is now being assembled for model studies in the towing basin, due to start in a few weeks.

CONSERVATION! Not Conversation--

GD/Electronics Appointments Made Public

(Continued from Page 1)

fore he left the company in 1948.

He rejoined at GD/Pomona in 1959.

In the years between he had held various controller, treasurer, and general manager positions in aircraft overhaul and fabrication companies.

He was vice president, secretary-treasurer, and assistant general manager at Southern California Aircraft Corp. in Ontario, Calif., from 1951 to 1955. In the three years following he was contract administrator at Lockheed Aircraft Service, Inc., also at Ontario.

Meantime, J. W. Swank, long-time GD/Convair veteran, is on special assignment to GD/Electronics with the title of industrial relations administrator. He has been with Convair since 1941.



H. F. Johnson J. W. Colvin

Kahla Named Systems Chief

B. W. Kahla has been named chief of systems and procedures for General Dynamics/Convair, according to an announcement by R. M. Hatcher, director of industrial engineering.

Kahla comes to San Diego from GD/Fort Worth where he had been deputy value control coordinator, reporting to the industrial engineering manager.



B. W. Kahla

In his GD/Convair post he will report directly to R. C. Hartwig, manager of systems and procedures and data processing.

Hartwig is responsible for Dept. 28, now systems and procedures; Dept. 27, data processing; Dept. 26, telephone and mail operations.

Reporting to Kahla are C. K. Twohey, systems and procedures supervisor; J. E. McCann, mail assistant supervisor; Mattie C. Ross, telephone assistant supervisor.

Kahla, a Texas native, received his bachelor's degree in business administration from the University of Texas. He joined Fort Worth division in 1949.

CHILDREN SOCIETY DONATION VOTED

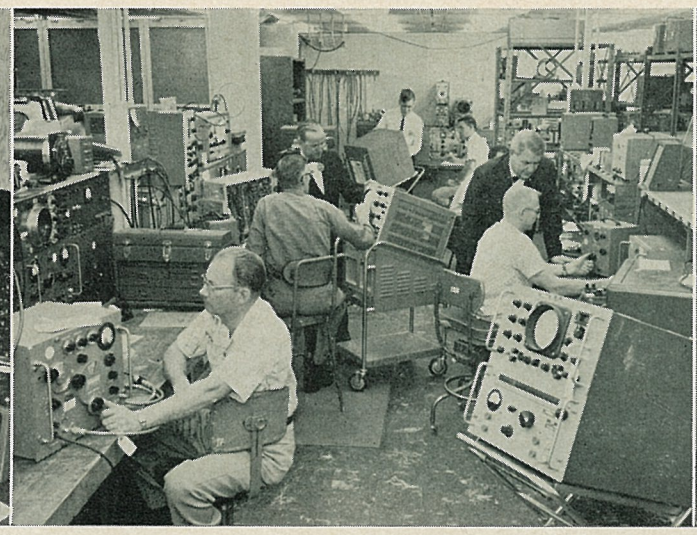
General Dynamics people in San Diego may keep and use Easter Seals they will be receiving, without paying for them, by benefit of Con-Trib-Club donations.

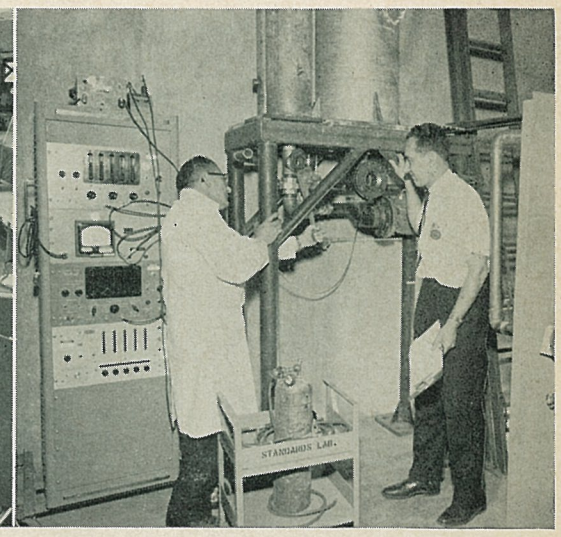
GD/Convair's Employees' Con-Trib committee voted $4,000 for the annual campaign conducted by the San Diego Society for Crippled Children. Funds go to the Children's Hospital.

Other contributions approved at the first March meeting saw $4,000 going to the San Diego County Heart Association and $500 to the Arthritis and Rheumatism Foundation.

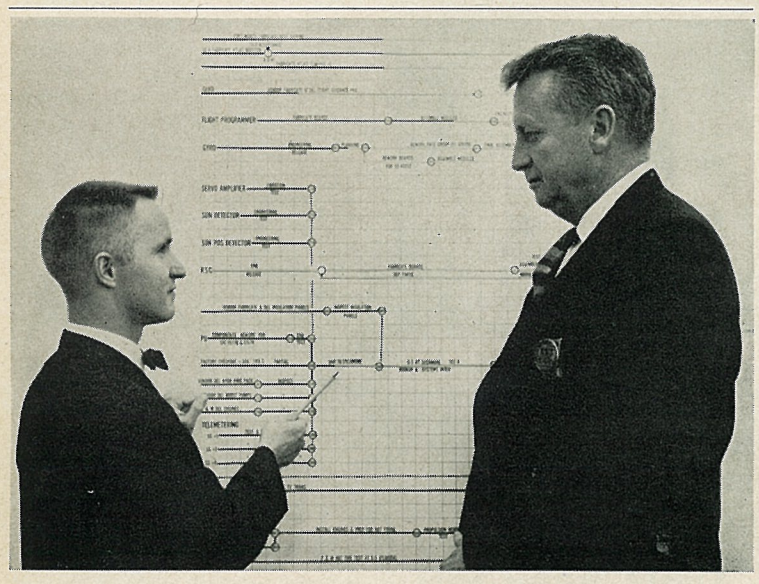
Tentative approval was given $500 for Pathfinders of San Diego, Inc., to help in their rehabilitation program. Monies will be directed toward a fund for larger and better-equipped quarters.







POTENT POTENTIAL—GD/Convair Standards Laboratories boast varied capability. In center is small part of test equipment calibration section. In photo are Warren Grimmett, M. B. Koenekamp, Henry Eichenberger, in charge of area, George Bergant, Ruben Diaz, Nick Kotsovos, behind W. R. Holmes, head of labs, Merle Hearn. At left W. A. Dershem checks in electrical items—resistors, voltmeters etc.—awaiting calibration. At right Roy Ramage tightens piping on new fuel stand, watched by E. K. Ames, in charge of equipment analysis. Standard flow test stand will be one of first of its kind.



PERT PATH—Norbert Nizze, PERT coordinator for Centaur, discusses highly simplified master PERT chart with R. T. Lyles, manager of schedule planning and control. From master chart, each step in production is further identifed in detail.

Divisions Apply System Of Charting to Keep Up With Complicated Task

Planning a meal or building a house works better with a system.

And to handle space-age industrial projects involving thousands of persons in hundreds of working groups with economy and efficiency, a functional system of management and control is an essential!

PERT (Program Evaluation and Review Technique), now in use at General Dynamics divisions including GD/Astronautics, GD/Pomona and GD/Fort Worth, is such a system.

At Astronautics it is being applied successfully to tasks ranging from production of Centaur launch vehicles to Atlas ICBM base activation and product support activities.

In one of many applications, PERT is a schematic illustration of the path a product follows from drawing board until delivery to a customer, and charting this path (called a "network") is the first move in applying PERT to any project.

The network comes into being at a project's inception, when representatives of all major groups developing or supporting the program meet, analyze project requirements, and define their responsibilities in filling these needs. Finally, they set up a schedule for each task.

Each major step (or "station") in the network they establish represents one job. This job's position in the network is determined by its relation to other jobs: which jobs must be finished before this one can be started; which ones can be accomplished while this job is in progress; and which work cannot start until this job is complete.

In final form the network sometimes consists of several thousand events for a complex project, and to handle this multitude, PERT calls on GD/Astro's IBM 7090 computer to serve as "secretary" and "memory" for the program.

PERT has been used at GD/Pomona for more than a year, and is applied to all engineering research and development. The program is ramrodded by planning and scheduling group, headed by George Simpkins. Training in techniques has been in progress for more than a year and a half.

Information about each task is punched into a card, and fed into the computer. When data on the entire network is "digested," the computer prints out a task-by-task report showing schedules for work completion and spotlighting problem areas, should any fall behind these schedules.

Changes can be entered in the network at any time, and because reports are issued at least every two weeks, management is provided with a constantly up-to-date picture of project status. They can plan to divert resources to solve problems predicted up to several months in advance!

GD/Astro has used PERT since mid-1960 when the system was first applied to Atlas ICBM base activation. Warren (II) AFB was "PERTed" first, followed by Offutt AFB, and the system was subsequently expanded to all "E" and "F" series bases where it has received official Air Force recognition.

The system's extreme value lies in its "report back" and reaction capability. For example, each base files a complete report on all complexes every two

(Continued on Page 4)



"This should help our team."

Dynamics Standards Lab Capability Available to Industry, Military

Services of General Dynamics/Convair's long-established Standards Laboratories — which can calibrate everything from Geiger counters to weighing kits for the Atlas missile and silos — have been made available to private industry and military organizations.

Now, at least 30 companies in the Southern California area are taking advantage of the vast assemblage of precision measurement equipment used for both large and small calibration and repair tasks.

All of the 5,000 instruments used throughout GD/Convair plants are calibrated on a regular schedule by the staff of 70 engineers and instrument technicians. In addition, all calibration for GD/Electronics facilities at San Diego is channeled through the GD/Convair labs, as well as a portion of calibration work for GD/Astro and General Atomic.

"We have, without question, one of the best-equipped calibration facilities on the West Coast," stressed W. R. Holmes, head of the Standards Laboratories.

"Years of experience in the maintenance of exacting standards for thousands of pieces of laboratory, factory, and field equipment have endowed the GD/Convair laboratories with outstanding capability in all phases of calibration," he continued.

The primary standards laboratories certify 1,500 standards. Many of these go back to the National Bureau of Standards for exact calibration. And, one standard used in the electrical lab is so delicate that it must be hand carried. It is a bank of six standard voltage cells from the large sealed standards cell which is flown to Washington, D. C. every year or two carefully held on the lap of a messenger. Although the standards cell, used to check reference standards for voltage calibration, can go years without variation, explained E. K. Ames, in charge of equipment analysis, it is regularly checked with national standards to assure positive FAA and military certification.

Complete primary standards laboratories, all on the ground floor of Bldg. 51, Plant 1, include electronics, electrical, physics laboratories, and a flow laboratory, commonly known as the "boiler room."

The test equipment calibrating laboratory (in which more than 40 technicians calibrate actual test equipment such as that used to test planes and components, radar test equipment, meters, gauges) is on the floor above.

Work there is under responsibility of Henry Eichenberger with George Bergant, assistant supervisor.

The primary laboratories calibrate all of the standards used in the test equipment calibrating laboratories for direct calibration of equipment.

The four primary standards labs cover a wide range of capabilities under direction of W. A. Dershem.

Work in the electronics lab includes measurement of micro-wave and high frequency power for test sets used to calibrate search, weather, and gun-laying radar equipment for power and range. All frequency meters are calibrated against a frequency standard accurate to five parts out of a hundred million! The lab's frequency standard is checked daily with signals and time ticks originating at National Bureau of Standards' transmitter. Signals are picked up at GD/Convair by the Bureau's WWV receiver to check time on a constantly-running clock.



COMING UP—W. A. Dershem raises solid concrete block off nuclear source vault in Standards Laboratories at San Diego. Geiger counter in foreground records radiation.

In one recent week the clock gained but five-thousandths of a second. Variation over a week is always within .03 second, or never more than one second in eight months.

Work in the electrical lab is devoted to voltage, current, power, ratio, and resistance, both D. C. and A.C. Precise measurements can be made from one microvolt (equal to a millionth of a volt) to a high of 60,000 volts.

The physics standards section deals with all types of physical measurements — temperature, light, weights, lengths, nuclear work, vibration.

Here, weights from fractions of a gram—so tiny tweezers must be used for handling—to load cells with a force of 400,000 lbs. can be calibrated. Several sets of four 250,000-lb. load cells used in weighing the Atlas missile were calibrated.

"We don't know of any other West Coast laboratories that can handle weighing kits of this size, even the company which manufactures them," said Ames.

Samples of Cobalt 60 are used in calibration of radiation indicators, and test equipment for radioactive materials. The thermonuclear sources are kept in a reinforced concrete vault.

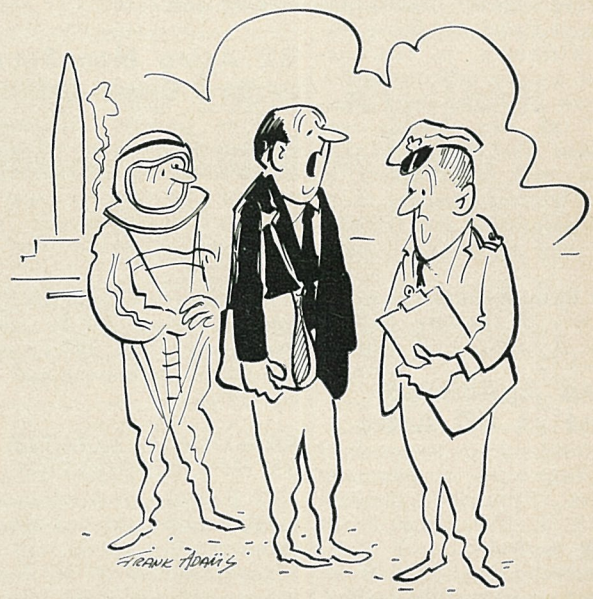
Temperatures to 3,000 degrees F. can be measured to within a two-degree accuracy. Temperatures from 300 degrees below zero F. to 800 above can be maintained at a .04-degree accuracy.

One of the most precise test equipments, a vacuum stand of GD/Convair design, produces low vacuums to a millionth of a millimeter of mercury—equivalent to 150 miles altitude.

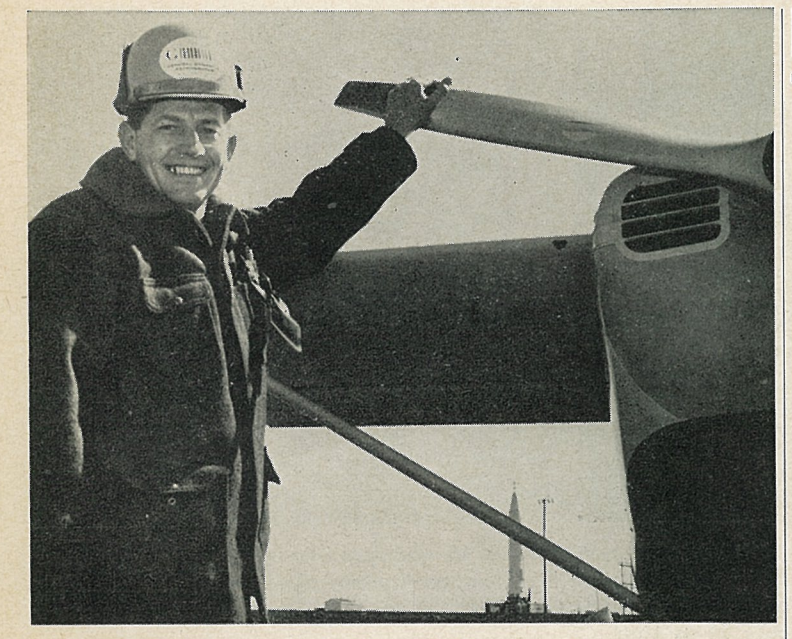
A future installation will enable technicians to bring pressures down to as low as a billionth of a millimeter.

Air and oil flow is measured in the flow lab at the northwest corner of Bldg. 51. Air flow is measured by a test setup using oil sealed volume measuring tanks with capacity up to 10-cu. ft. volume. Here liquid flow meters, as large as 300-gal. per minute capacity, can be calibrated.

In the construction process is a standard flow test stand in an adjacent explosion-proof room. It will be used for such fluids as JP-4 fuel and Stoddard solvent. The stand, which will be in use by early summer, will be one of the very few in existence.



"He'd feel a lot better about launching into space if he could walk around and kick some tires before he takes off . . ."



CONTACT—James Lambright, GD/Astro assistant foreman at Altus AFB, readies commuter plane for 20-mile trip between Atlas missile site and home. He flies both ways each day. Note launch complex in background.

GD/Astro Commuter Soars Over Traffic en Route to Astro Base

ALTUS A F B — Laughing at traffic jams is a favorite pastime of James Lambright, General Dynamics/Astronautics assistant foreman here.

That's because Lambright is seldom in a traffic jam. He's above them as he flies the 20 miles between his home at Altus and his job at an Atlas launch complex near Snyder, Okla.

His Cessna 170-B allows him just a little more sleep in the mornings and additional time in the evenings with his family, including sons Terry, 10, and Richard, 16.

A veteran of nine years with G e n e r a l Dynamics, Lambright bought his present plane in 1957 while working for GD/Convair at Edwards AFB.

Lambright sets his plane down on a small landing strip, just a few steps away from the Snyder Atlas complex.

Lambright traces his love of flying back to the Navy where he served as an aircraft mechanic.



PRINCESS KATHLYN—Mrs. James Mathis, wife of a GD/Convair field service rep, receives homage from Kirchberg, Germany, townspeople as she reigns as Princess of pre-Lenten celebration. Prince was Herr Erich Best, Kirchberg pharmacist.

Wife of GD/Convair Service Rep Honored by German Townsfolk

A General Dynamics/Convair wife has the top honor of being the first American woman ever chosen to reign over the annual "Fasching," pre-Lenten celebration in Kirchberg, Germany.

Mrs. James Mathis was crowned "Princess Kathlyn" for the town at the huge ball celebrating the opening of the season in mid-February. Mathis is based with the 496th Fighter - Interceptor Squadron at Hahn Air Base, outside of Kirchberg, as GD/Convair field service representative.

"Princess Katrina from Kalifornien," as Mrs. Mathis was called, won the hearts of the townsfolk with her speech in their own language lauding them for their hospitality and friendliness to the Americans living there.

Mayor Rudy Koppke presented her the key to the city, saying, "Princess Katrina, your courage to appear here and your efforts to learn our language have already won the admiration of our citizens, plus your loveliness, owes extreme recognition."

Fasching is observed throughout the Catholic-populated areas of Germany during the whole period before Lent. The word is derived from "faseln,"—to play pranks—and is a time of merry-making and fun.

Gilliland Appointed To Post at GD/Astro

R. H. Gilliland has been named chief of inspection—procurement at General Dynamics/Astronautics by P. I. Harr, director of reliability control.

Gilliland reports to D. R. Archibald, manager of quality control. He replaces C. C. Flagg, who has retired.

GD/Astro Men Serve In Red Cross Drive

Three General Dynamics/Astronautics members of the San Diego Chapter, National Association of Accountants, served as volunteer campaigners during the recent American Red Cross fund drive.

Len Egerer (Dept. 193-0), Ken Keown (Dept. 193-2) and Joe Sanderson (Dept. 193-1) work in the drive's commerce and industry division.

RICHARDSON ELECTED BY MFG. ASSOCIATION

L. B. Richardson, General Dynamics consultant and long time executive, this month was elected a vice president of the Manufacturers Aircraft Association. He is also a member of the MAA board.

Divisions Apply Chart System To Check Complicated Tasks

(Continued from Page 3)

weeks, and reports on its lead installation weekly. Each report provides for a complete re-evaluation of the total program.

Latest development in PERT is now being applied at Plattsburgh AFB where direct telephone lines between the base and GD/Astro's home plant enable computers to send PERT cards station-to-station in a matter of seconds.

Plattsburgh now files daily reports on all jobs completed, and reports on in-work items each week.

R. M. Jirgal, Dept. 603, who heads PERT operations for base activation, said use of the system resulted in "surprisingly accurate" forecasting.

"Our approach to PERT has many potential applications," he added. "It provides improved scheduling capability, and maximum support for field operations."

Jirgal also teaches a UCLA extension course in PERT—the only public class in the subject in the San Diego area.

Larry Chambers, Dept. 302, coordinates PERT operations for product support, which uses the system in Golden Ram follow-on, "E" series up-dating, the technical manual program, etc. Norbert Nizze works with the Centaur project; Dave Raney with new proposals; and Doug Platt in master scheduling.

C. R. Walker Jr., manager of program planning and control (Dept. 152), coordinates PERT activities throughout GD/Astronautics, under G. M. Robertson, director of management systems.

GD/Astro educational services (Dept. 130-3) has conducted a four-hour class in PERT for over a year, thus far introducing more than 200 employees to the system. H. T. Sicard, assistant supervisor of professional and technical education, coordinates training, and J. P. Murray is instructor.

Visitor

Talleyho! Fox Finds Friend

Raymond Lucero captured the "brush" and all that goes with it in a fox hunt that took over Bldg. 3 at General Dynamics/Convair a couple of weeks ago.

Dozens of production workers joined with great zest in the chase to rescue a frightened, young red fox, which, in some unexplained way, had wandered into Plant 1.

The animal, only a few months old, was discovered d a s h i n g through the plastics production area of Bldg. 3 when the first shift reported for work. As he eluded everyone, Lucero hurriedly put together a make-shift trap box. He was finally confined with a great deal of shooing and urging.

Tidbits from the cafeteria kept him happy during the day. Lucero took him home to try to locate the owners. Consensus was that the little fox must have been an escaped pet. He will be turned over to the San Diego Humane Society if no one turns up to claim him.



FOXY—Raymond Lucero, GD/Convair Dept. 128, holds young fox captured in recent "hunt" within GD/Convair plant.



"BLESSED" EVENT — Tex and Millie Clements of GD/Convair proudly show off new daughter, Swiss baby they are adopting in Germany.

Daughter

Swiss Baby Girl 'Joins' Convair

A General Dynamics/Convair couple, based in Germany for the company, have really gone international with their adoption of a Swiss baby girl.

C. H. "Tex" and Millie Clements, native Texans, now living in Wiesbaden, Germany, are happily going through the process of acquiring 3½-month-old Christina Helene of Swiss parentage for their very own.

They have no other children.

Clements, who first joined General Dynamics at Fort Worth in 1945, has been stationed in Germany with GD / Convair field service the last three years. He has headed field service support activities in the European area s i n c e F-102s first went to USAFE squadrons in early 1959.

The Convair-built interceptors are being used by squadrons in Germany, Spain, and Holland.

Standards Engineer Heads Author Group In San Diego Area

Lowell Ward, assistant standards engineer at GD/Convair, has been elected president of the San D i e g o Scriptographers Club, group of professional authors.

Ward wrote the material used in four cartoon-type books published by Trend, Inc. Pete Millar, former GD/Convair technical illustrator, did the drawings.

At present Ward is working on material for a cartoon book devoted to trials and tribulations of Model A restorers, all in humorous vein.

Excited Passenger Delays 990 Flight

An unprecedented delay held up takeoff of a Swissair 990 Coronado from Zurich recently when a passenger mistook the emergency exit for a window!

He explained that he was just trying to get a little fresh air to recover from the excitement of boarding a modern jet for Buenos Aires.

It took just 19 minutes to replace the door and get the South American-bound jetliner on the road, reported Frank Laffoon, GD/Convair customer transport service rep based at Zurich.

Multi-Weapon Sonic Fatigue Test Conducted

Sonic fatigue testing of a simulated B-58 "multiple weapon" configuration, using a specially built Hustler "wing," is being carried out by GD/Fort Worth engineers in the modified jet engine test facility.

"We'll run the B-58 engine a total of 10 hours with maximum afterburner over the next few months to see if the airplane structure and the weapon system function normally with the new configuration," said Don Pray, senior structures engineer who is project leader.

He explained that 10 hours with afterburner is equal to 7,000 flying hours—approximately the life span of most jets.

"We'll also check out operation of electronic and electromechanical systems related to operation of multi-weapons," he said.

An acoustics expert, Pray contends that any new configuration change—such as that afforded by adding four external weapons (called "stores") under the B-58 wing—changes the acoustical environment.

"Obviously, we have to prove out the new configuration early in the program," he added.

Tests will be run in 15 to 30-minute spurts, probably through August. Evaluating and reporting will likely run to about November.

Engineers monitor tests from a nearby control room, equipped with a special data recording system capable of handling 150 channels of information.

Considerable modification work was done at the engine test facility to make this and other tests possible.

The acoustically treated exhaust section of the cell was converted to an environmental test facility by removing baffle walls and some of the water-cooling system. Structures were added on which various test specimens could be mounted.

"One of the major problems in this test has been development of instrumentation techniques to cope with extreme environmental conditions of the test cell," Pray said.

"This includes high intensity sound as high as 165 decibels—capable of destroying a conventional aircraft structure in minutes, temperatures ranging up to 300 degrees Fahrenheit, and high-velocity air turbulence and water spray caused as air escapes from the engine at Mach 2.

"For this test, we installed a major portion of the right side of the B-58 wing, including modifications associated with the multi-weapon configuration, in addition to a production-type rack and external store," Pray said.

Assisting GD/Fort Worth engineers in the test is Bill Sieger of Sandia Corp., Albuquerque.

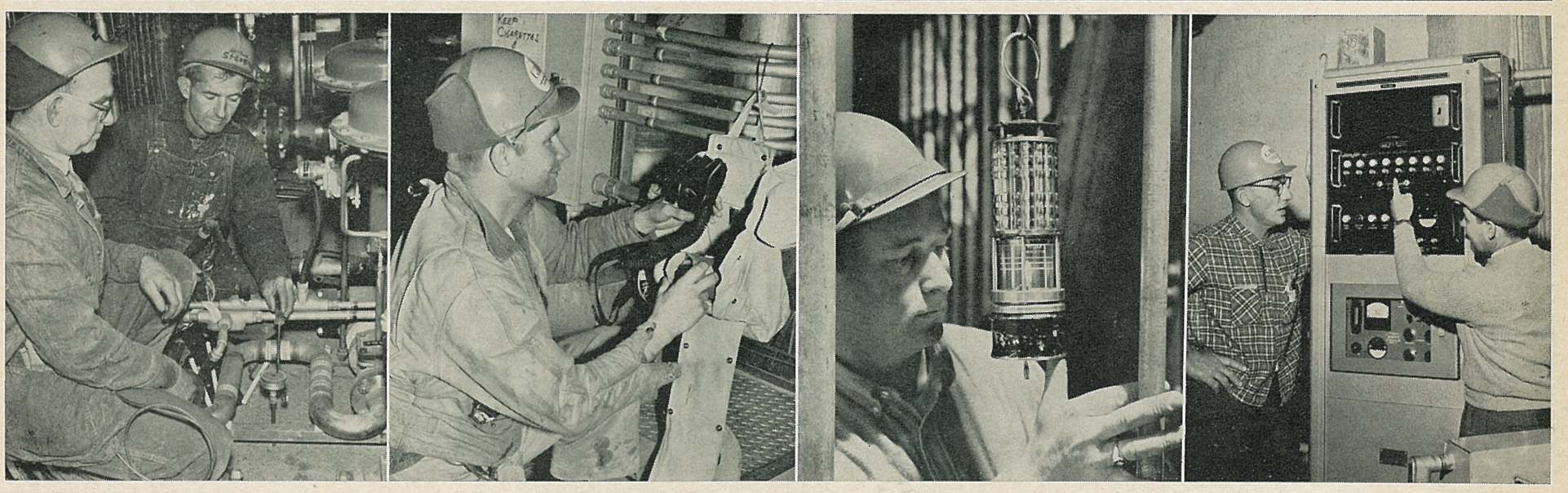
PURCHASE AGENTS PLAN 'BOSS' NIGHT

Russell T. Stark Sr., director of purchasing for the Burroughs Corp. and president of the National Association of Purchasing Agents, will appear April 4 before the Purchasing Agent Association of San Diego.

Billed as "Bosses' Night," the affair will be held at the Crystal Room, Grant Hotel. Among the 80 members of the local group are numerous General Dynamics Corporation employees. Each will bring his immediate supervisor to the dinner meeting.

As head of 17,000 members of the national organization, Stark is making a tour of the Western United States to visit local groups.

The meeting is open to interested persons. Further information is available through Frank Blakefield, GD/Astro buying supervisor, ext. 1005, Astro site, who is association director for national affairs.



PRECAUTIONS—GD/Astro takes extra care for health of those working underground at Atlas missile sites, by means of detection systems to check on proper oxygen supply and guard against gas. At left Jim Shipman and Paul Stevens at Schilling AFB inspect "sniffer." Second from left, R. H. Dopp examines oxygen equipment—ready, just in case. Next, B. C. McGowan checks lamp. Flame level is clue to oxygen content. At right V. Reed and M. T. Chase are beside electronic analyzer that triggers alarm in case of danger. Photographer Bill Touchberry made photos at Schilling. Lincoln, Altus, Walker, Plattsburgh, Dyess have such systems.

'Terrain Avoidance' Tried Out With B-25

A B-25 is flying over unpopulated areas near San Diego to actually test out, in flight, effectiveness of the "terrain avoidance" system, designed and developed by General Dynamics/Electronics at San Diego.

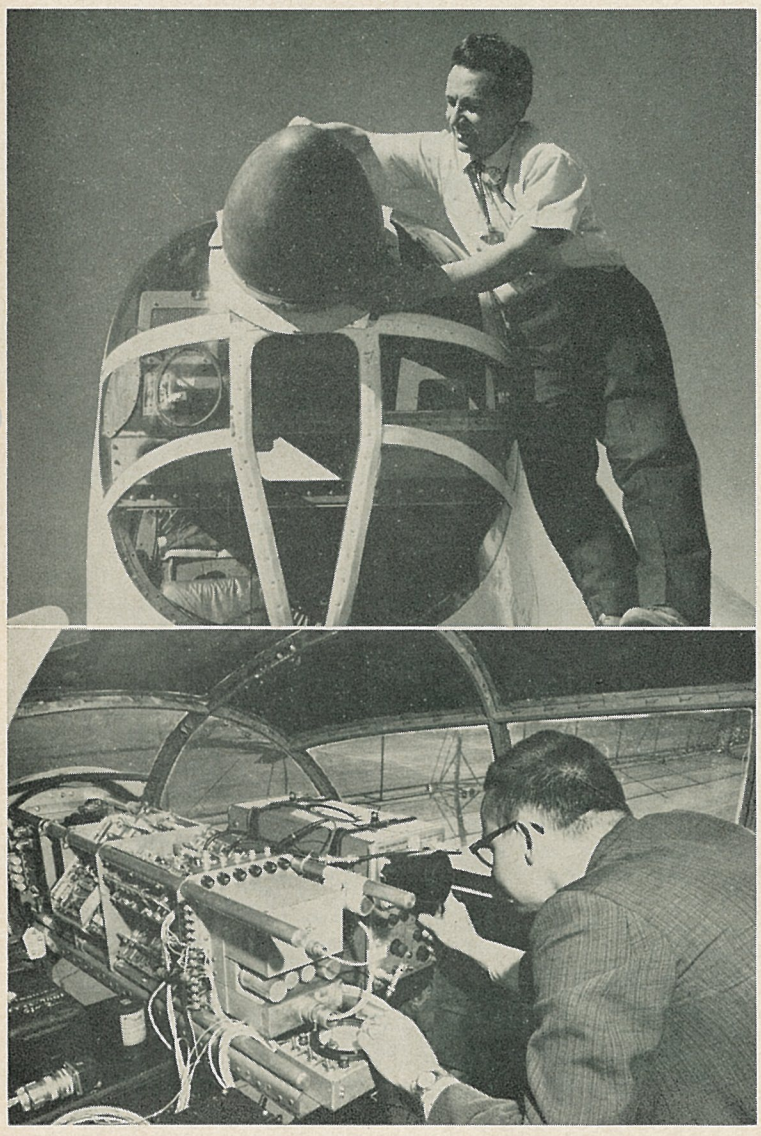
The simplified electronic flight system, designed to permit safe "ground-hugging" by any plane, has been installed in a leased B-25. Flight testing, which has been in progress the last two or three weeks, will be concluded within the next few weeks, said Roger Olson, project engineer.

The GD/Electronics system is designed to automatically keep a plane on its path, at all times maintaining a safe distance above any obstacle beneath. Development has been under way at the San Diego facility with an eye toward its possible value primarily for military aircraft.

During the last few months, sales teams have been surveying the potential market which would allow full-scale production. An advertisement describing the new concept is due to appear this month in national aviation magazines.

Assisting Olson in testing of the actual system, fabricated by GD/Electronics engineering model shop, are James Boelens and Mitsuo Ishihara, reporting to J. L. Brooks, chief engineer for airborne radar. Technician Ronald Bietz has been responsible for installation.

The B-25 being used for flight test is a privately-owned craft of Tallmantz Aviation Inc., located at the Orange County Airport. Jim Bissell, a Tallmantz pilot, has been at the controls of the plane during the flight program.



TRIAL RUN—Roger Olson of GD/Electronics at San Diego observes radar video on oscilloscope of "terrain avoidance" system being flight tested on B-25. Shot above shows Lee Noble, GD/Electronics technician, during installation of radome on test craft.

Pilots of Swissair Give 990 Workout

A Convair 990 being used for pilot training by Swissair at Arlanda, Sweden, is standing up under heavy workouts.

It is in use 11 to 12 hours a day for touch-and-go landing and takeoff training, making a landing on the average of every 18 minutes. In a recently-recorded 71 hours and 20 minutes, the 990 came down for 226 landings.

Swissair now has three 990s in service in addition to the 990 in pilot training. Two round trips a week are scheduled to Buenos Aires, South America, and regular runs between Zurich and Tokyo.

Granddaughters Born On St. Patrick's Day

While most folks "wear green" on St. Patrick's Day, Walt Hocker, GD/Astro Dept. 151-3, goes to the hospital.

A year ago on St. Patrick's Day his daughter, Mrs. Odessa Wright, gave birth to little Julie Ann. This year, on March 17, Hocker again visited the hospital where Mrs. Wright and another of his daughters, Mrs. Marilyn Steber, BOTH were delivered of baby girls!

GD/Fort Worth Cuts Light Bill For Jan.-Feb.

GD/Fort Worth saved $15,398 on its January-February electric bill simply by cutting lights off when they weren't needed.

That's the word from I. B. Hale, monitor for utilities overhead in the plant's 1962 conservation program.

"Our electric bill for the two-month period was $182,170," Hale said, "which is $15,398 below last year's electric bill for the same period—and the budget figure."

How did employees effect this sizable savings? Mainly by cutting out lights in areas where first-shift work had ended and no second- or third-shift work was slated, Hale said.

"Supervision helped further by seeing to it that power was turned off to machines and tools when not in use, and by reporting leaky air lines to maintenance at once."

Checking to make certain all air is cut off at distribution valves at end of shift has also helped check the upward trend in electricity costs.

The drive to cut utility expenses is part of a six-pronged attack on overhead expense in 1962.

Five other members of management are assigned to devote part of their time and effort to reducing costs in selected areas: J. Haynes, operating supplies and perishable tools, E. E. Hatchett, printed forms and stationery supplies, R. M. Gallagher, telephone and telegraph, R. W. Harwell, travel and per diem, and A. L. Barnett, material scrap.

"The importance of an even greater cost reduction effort during 1962 cannot be over-emphasized," President Frank W. Davis said in announcing the monitors earlier this year.

GD/Convair Son Wins School Scholarship

Les Hitchcock of GD/Convair motion picture section has good reason to be proud of his brainy family—both sons winning top scholarships in the last two years.

Following in the footsteps of his older brother, Dennis, 12, has been awarded a six-month scholarship to St. Augustine High School. He was one of 15 in the San Diego area to win one of the annual grants. Over 400 competed. Two years ago his brother Roger was awarded a one-year St. Augustine scholarship.

Air Samplers

Atlas Silo Crews Underground Protected by 'Sniffer' System

In the "good old days," nearly every mine was fitted out with safety lanterns—and a canary.

For General Dynamics/Astronautics employees activating "F" series Atlas ICBM "silo" sites, the lantern is still temporarily present.

Traditionally, the canary was placed in the mine to detect poisonous gas—if he "keeled over," the miners beat a hasty retreat. And so long as the flame burned steadily in the safety lanterns, plenty of oxygen was available.

Extensive air circulating and purification systems are a part of every Atlas silo installation today, and constant safety checks are carried out.

Still, during early days of installation and checkout (I&C), GD/Astro hangs regular miners' lanterns at various points throughout the Atlas silo.

The glass chimney of each is scribed with three rings, and while the flame burns at the middle one, all is well. Should it soar to the top ring, or smoulder at the lower one, there is an excess or deficiency of oxygen in the silo and corrective action must be taken.

In later stages of I&C an electronic combustible gas detector—a kind of "missile-age canary"—is installed, along with a similar oxygen detection unit which replaces the lanterns.

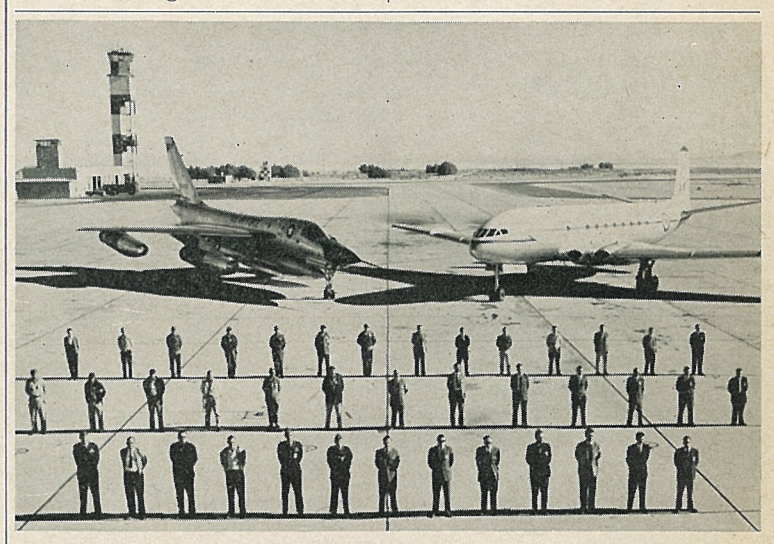
Both detection systems rely on "sniffers," sampling heads located throughout the silo. In the gas detector, for example, one sniffer is on the silo's first level, four on the seventh level, and two on the eighth.

These remote heads sample the atmosphere in their areas for 30 seconds and relay information to electronic detector assemblies where samples are automatically analyzed.

If the sniffers "smell trouble," the detector assemblies give visual and audible warning, turn on a silo exhaust system, and activate a fog-spray system to "wash" the atmosphere.

In addition to their other feats, the detectors have an added capability which justifies their presence—even for bird fanciers. In the old days, if a lantern flickered, or a canary succumbed when no one was looking, it meant trouble.

But should an electronic detector malfunction, it sets off its own alarm.



TEAM WORK—Joint United States-United Kingdom test force—including GD/FW maintenance crew—pose in front of B-58 No. 59 and British Comet I jet used in infrared-measurement demonstrations.

Hustler and Comet Jets Team In Infrared Radiation Study

A B-58 Hustler was teamed with a British Comet I-A jet at Edwards AFB recently to measure infrared radiation from supersonic aircraft.

During two months of testing, the Mach 2 Hustler made several close passes by the Comet I, which served as a flying laboratory. The British jet was fitted with special instrumentation and measuring equipment.

The program was a joint United Kingdom-United States effort.

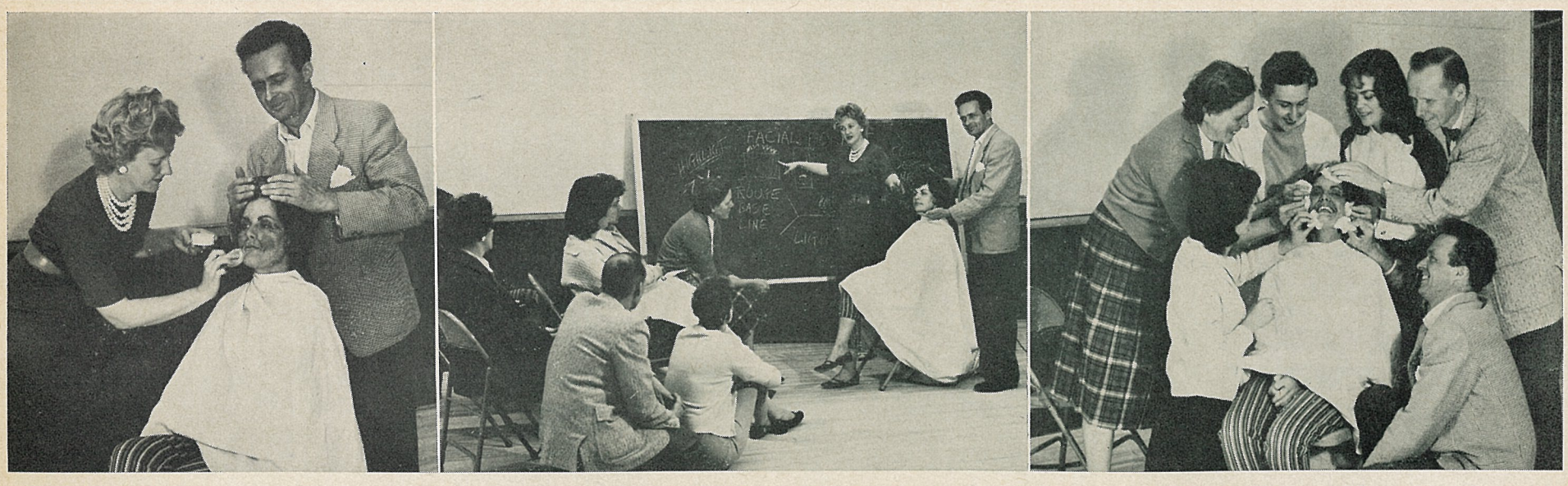
Edward H. Cooper, Aeronautical Systems Division at Wright-Patterson Air Force Base, Ohio, and Lt. Col. Jerry F. Flicek, USAF officer serving with the British Ministry of Aviation, London, directed the program.

Majors Kenneth K. Lewis and Fitzhugh Fulton of Air Force Flight Test Center at Edwards were project engineer and pilot on the Air Force team.

C. W. Collins, Dept. 64, was crew chief of the GD/Fort Worth maintenance crew involved.

Crew members were W. C. Argabright, R. M. Crutchfield, W. I. Louis, N. L. Marr, M. O. Morris, J. M. Rayburn, O. A. Roberts, A. A. Tetterton, T. M. Tynes, W. H. Walker and J. A. Vastardis.

The entire crew had also served with No. 59 in a series of sonic boom tests at Edwards.



WAR PAINT—Astro Players are attentive (center) as Pauline Middleton and Julius Rose prepare to demonstrate stage make-up, with Patsy Kick as volunteer. At left process gets under way; while at right, lesson completed, Trudy Leyrer, Mrs. R. Thornton, Rosalie Osborn, Rae Long and Dick Middleton add their help to removing make-up. Drama enthusiasts are learning fine points in series of workshops. Sessions are held every Wednesday in ARA Clubhouse.—Photos by Milt Ball.

GD/Convair Suggester Bats .500 With Good Ideas For Company

As an example of what one person can accomplish, both for himself and the company, by turning good ideas into money through Employee Suggestions, is E. I. Price of Dept. 119.

Price turned in 12 suggestions last year. Six were approved, for a batting average of .500.

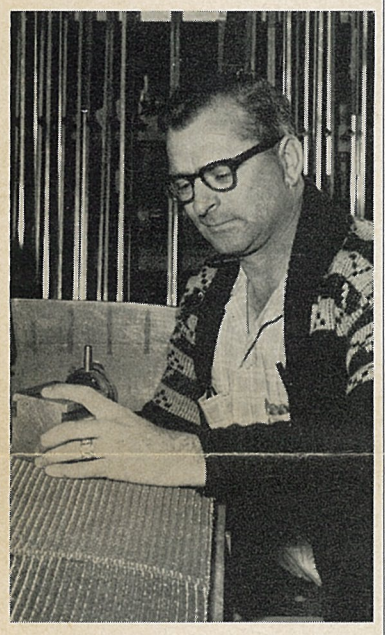
Besides saving the company $8,331, Price's ideas earned $836.90 for himself.

All of his suggestions have dealt with improvements within his own department and his contribution went a long way to help Dept. 119 rank fourth in GD/Convair's departmental cost reduction goals.

Typical of his suggestions was his idea to use honeycomb core rejected because of wrong dimensions. He conceived a method of splicing the core, which was acceptable to engineering and met specification requirements.

Price's smallest ES payment was a split award item which was shared with a fellow employee for $6.80. His largest check totaled $743.20.

"My basic motivation for submitting Employee Suggestions is to make my own job easier," said Price. "If one doesn't pay off, I just keep sending them in and trying again."



IDEA MAN—E. I. Price (Dept. 119) has had a half-dozen Employee Suggestions approved during last year to earn himself an extra $836.90 and save GD/Convair over $8,000.

April 7 Deadline To Enter Bowling

Entry blanks for the 21st annual Convair Championship Bowling Tournament are still available, said Jim Hayman, CRA commissioner.

All bowlers intending to compete must sign before April 7, deadline date.

Tourney dates are weekends of April 21-22 and 28-29 at Pacific Recreation. Entry forms may be obtained from Hayman, ext. 1155, Plant 1; employee services, Bldg. 32, Plant 1; and Pacific Recreation.

Shutter Bugs Casing Desert

Shutter bugs at GD/Convair will be casing desert areas for photographic material over a coming weekend.

CRA Camera Club members will travel to Searle's Dry Lake, north of Mojave, near Trona, for their base of operations April 7 and 8. From that central location, they can fan out to such spectacular settings as Mt. Whitney, Death Valley, Red Rock Canyon—all within a two-hour drive, said Ron Ainsworth, club spokesman.

The trip is open to anybody who would like to join in, said Ainsworth, who will give out information on motel stops, camp sites, or eating places. He can be reached at ext. 1431, Plant 1.

Regular club meeting will be April 9 at 7:30 p.m. at Photo Arts Bldg., Balboa Park.



GOOD THINKING—R. C. Roebke, GD/Convair Dept. 313 at Holloman AFB, N.M., receives award pin and check for $155 (held by F. E. Roeder, chief of industrial relations) for Employee Suggestion approved shortly before his recent promotion to instrumentation assistant foreman. Making presentation is O. L. Todd, chief of field operations and instrumentation.

30 Squares Expected For Dynamics Dance

A half-dozen callers will direct more than 30 squares when ARA Astro Nauts host square dance clubs from GD/Convair and GD/Pomona in an "All General Dynamics" jamboree March 31.

The evening event will open with a dinner in ARA Clubhouse at which chiefs of employee services and incoming and outgoing recreation association officers at each division will be honored guests.

Plans call for dancing from 8 p.m. until midnight with Astro Nauts' caller, Van Vander Walker, as emcee. Club callers from the Convair and Pomona clubs will join Vander Walker and other guest callers in directing the festivities.

Club Bowling Call Sounded

Last-minute call is out for all Management Club bowlers at GD/Astronautics, GD/Convair, GD/Electronics to sign up for the annual interdivision tourney.

Forest Erwin of Astro and Harry Lund of Convair, spearheading arrangements, urge all club keglers to turn out.

The second annual battle will take place April 15 at Clairemont Bowl.

Last year's event drew 42 teams with honors almost evenly distributed between Convair and Astro bowlers.

The Astro Hawks copped high team scratch honors; Convair Jets won team handicap series. Hank Brenner of Astro had a 260 game for high individual scratch score; Bob Beezley of Convair had high scratch series; E. W. Grugel, of Astro, high handicap game; H. E. Mowery, Astro, high individual series.

The yearly tourney normally leads into the annual Southern California National Management Association tournament.

All Astro members interested are asked to call Erwin, ext. 3509, Astro main plant. GD/Convair and GD/Electronics bowlers may reach Lund at ext. 2321, Plant 1.

GD/Convair Engineer Will Chairman Derby

George C. Franklin, senior design engineer at GD/Convair, an avid fisherman, is heading the 16th annual San Diego Yellowtail Derby as chairman.

The fishing contest gets under way March 31 and will run for 26 weeks. Final Derby Day fish-off is slated for October. Thousands of dollars worth of prizes go annually to lucky anglers.

Franklin has been active in the San Diego Junior Chamber of Commerce, Derby sponsors, since he joined the group four years ago.

He has fished in all of the western states and in most eastern lakes and streams, besides the Atlantic, Gulfs, and both sides of the Pacific. He served in the infantry during the war.

Pomona and San Diego Bowmen Compete in Annual CRA Meet

A six-time national champion walked off with top honors at the open "Arrow Shoot" sponsored by CRA Archery Club March 11 at San Diego.

Rube Powell, shooting in the freestyle champ division, scored a 980 to win the event and the dozen fiber glass arrows given winners in each class.

Bowmen from Pomona, Ontario, El Centro, Holtville, Mexicali joined San Diego archers at one of the largest events ever staged on the Balboa Park Field Range. In spite of threatening weather, 62 adults and 16 juniors and intermediates, vied in both freestyle and barebow events, said CRA Commissioner Al Phipps.

Kirk Rose, a state champion, from Vista, won the champ barebow class with an 883 and Phipps was nosed out by four points in the barebow Class A. He was topped by Norman McCrosky of the U. S. Navy who scored 779 points.

Most one-sided score was chalked up by Mac McGuire, formerly of GD/Convair, in Class C freestyle competition. McGuire shot a high 783, over 200 points more than his nearest runner-up.

Other winners were Chuck Wilson, freestyle Class A, 726; Dan Blackston, freestyle Class B, 662.

Ron Rees shot 578 to take the barebow Class B; Cliff Dorr of GD/Convair Dept. 400, barebow Class C, 573; and Harry Ridge Sr. 470, in the Class 100 barebow.

Phipps' son, Mike, garnered the valuable prize of arrows for his performance in the intermediate boys' barebow class with a 403.

Walter Backer won the junior boys with 515; Peggy Ross (father in Dept. 400 at GD/Convair), junior girls, 550. Intermediate boys' freestyle went to Peter Simoneau, 758.

Two women experts, whose husbands are at GD/Pomona, topped women's barebow classes. Marcia Bateman won Class 175 with a 374; Anieta Baker, Class 75, 199.

Evelyn Little from Mexicali took the women's freestyle Class 275 with a score of 680; Diane Vetrecin of Chula Vista, freestyle Class 225, 445; Frankie Smoot, barebow Class 275, 669.

"The shoot proved so successful that we plan to make it an annual event," said Phipps. "We'll schedule it regularly in March."

Next CRA club shoot will be Sunday (April 8) at the Balboa range. It will be a regular 28-target field shoot.

Members will gather for a club meeting next Tuesday (April 3) at the Phipps' home, 2318 Upas St., at 7:30 p.m.

Aeromodelers Hold Saturday Sessions

CRA Aeromodelers are holding regular Saturday flying sessions at Clairemont Mesa Flying Site.

Don Larsen, club president, urges all modelers and their families to join in the fun from 7 a.m. till noon. He also reminded all GD/Electronics modelers at the San Diego plants that they are cordially invited to attend any Aeromodelers' activities.

Theater Offering Ticket Discounts

Through arrangement with the Industrial Recreation Council, the State Theater has announced special reduced prices for GD/Astro and GD/Convair employees upon presentation of ID cards.

Employee prices for all showings are 99 cents for reserved seats; 75 cents for general admission; and 20 cents for children under 12 years of age.

'Music Extravaganza' At Pacific Beach Includes Show Tunes

Several General Dynamics employees will take part when Rhythm-Aire Players of Pacific Beach present a musical variety show, "Holiday with Music."

Curtain time is 8:15 p.m., March 30 and 31, and April 6 and 7, at Pacific Beach Women's Clubhouse, 1721 Hornblend St.

In the cast are GD/Convair sons and daughters Alice Horn, Barbara Sneathen, and Robert Brisbin, and GD/Astro employees Ed Moores, Stan Medford, Joe Kraynak, Fern McCoy and Vi Pohlenz.

Goetzelman Named Rockhound Prexy

George Goetzelman (Dept. 115) has stepped into the presidency of the CRA Rockhound Club with the resignation of Jim Sugg, now with GD/Astronautics.

Goetzelman had been vice president for the current term.

The weekend of March 10-11 found the Rockhounds at Kramer Hills. Threatening weather did not discourage the hunt for moss agate, jasper agate, and petrified palm root. Smokey Kinghorn, field trip chairman, reported that all searchers came up with good material.

George and Virginia Forbes entertained members and guests at the March 8 meeting with slides and sound describing their trip through the "Cactus Country."

Hole-in-One Contest Offers $1,000 Prize

General Dynamics golfers in the San Diego area have been invited to enter a hole-in-one tournament at Stardust Country Club, April 6, 7 and 8.

Hours are from 8 a.m. until dusk each day, and three tries at the 120-yard hole cost $1.

Top prize is $1,000 plus trophy. Door prizes and awards for runners-up, as well as three trophies for junior golfers will be presented.

The event, endorsed by the Industrial Recreation Council, is sponsored as a benefit by "Las Companeras," volunteer auxiliary of Children's Home Society of California, a private adoption agency.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday, 7 a.m. till noon, Clairemont Mesa Flying Site.

ARCHERY CLUB — Meeting April 3 at home of Al Phipps, 2318 Upas St., 7:30 p.m. Club shoot April 8, Balboa Park Field Range.

BADMINTON — Regular play each Tuesday, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Entries close April 7 for annual Convair championship bowling tournament. Call Jim Hayman, ext. 1155, Plant 1.

BRIDGE CLUB — Weekly sessions every Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Weekend field trip, April 7-8, to Searle's Dry Lake. Call Ron Ainsworth, ext. 1431, Plant 1, for information. Regular meeting April 9, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play every Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

FENCING — Workouts and instruction each Friday night, 7-10 p.m., YWCA, Tenth and C Sts.

GARDEN CLUB — Meeting April 11, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — Deadline for entries to Yater Memorial Tournament Friday (March 30). Call ext. 1705, Plant 1.

ICE SKATING—Skate nights Thursday at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75¢; children under 12, 20¢.

PISTOL CLUB — Next shoot April 8, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (March 29), 8 p.m., Harbor Drive headquarters.

RIDING CLUB—Family night March 31, 7:30 p.m., Gillespie Field Clubhouse.

SQUARE DANCING — Beginners' graduation tomorrow (March 29), American Legion Hall, 4061 Fairmount Ave. All-General Dynamics Jamboree at ARA Clubhouse March 31.

SWIMMING—Free swim night Saturday (April 7), Mission Beach Plunge, 7-9 p.m. Tickets at employee services.

TROPICAL FISH CLUB — Meeting April 10, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

VOLLEYBALL — IRC tourney play begins April 4-6, Muni Gym, Balboa Park.

WATER SKI CLUB — Skiing on phone-call basis. Call Gene Sevigny, ext. 1032, Plant 1.

Atlas Rally Next For Sports Drivers

Sports car fans at GD/Convair can go on from their own big "Seat of the Pants" rally last Sunday to take part in the annual Atlas Rally IV slated for the end of April.

Astro's Sports Car Club is welcoming entries from GD/Convair and GD/Electronics drivers and navigators to their outstanding rally of the year. It will be held Sunday (April 29).

Events for both "seat of the pants" and "navigational" classes are being scheduled, said George Lahey, ARA rallymaster.

The Atlas Rally is a San Diego Council of Sports Car Clubs sanctioned championship affair with trophies for both driver and navigator, first through tenth places, in the two divisions.

Entry forms can be picked up at GD/Convair employee services, Bldg. 32, Plant 1. Lahey can be reached on Astro ext. 3206 for further information.

Sports & Recreation



SHOWING STYLE—Bill Flint of Info. Tech. golf team shows putter stance which helped win Class B IRC tourney. Ernie Paul, club president, holds flag. Team members, from left (kneeling), are Jerry Swisher, Fred Nuzzo, Bill Cody; (standing) Frank Smyer, Don Jackson, captain, John Hope.

Info. Tech. Golfers Triumph, Win Team Trophy in B League

Linksters of GD/Electronics' Info. Tech. team came through in fine style to take top team trophy in the recent Industrial Recreation Council League.

Competing in Class B, 15-25 stroke handicap division, Info. Tech.'s golfers garnered 68½ points. Astronautics' team, with a total of 60, placed second out of the nine industrial teams participating.

Last of the eight-round tourney was held March 4 on Tijuana Country Club course with Info. Tech. defeating San Diego Gas & Electric Co. Matches, extending over an eight-week period, were played over courses at Balboa Park, Torrey Pines, Flying Hills.

Members of the winning Class B team all received individual trophies, in addition to the team award. On the team are Don Jackson, captain; Bill Flint, Jerry Swisher, John Hope, Fred Nuzzo, Frank Smyer, Bill Cody.

Ernie Paul, president of the Info. Tech. Golf Club, urges all GD/Electronics men, based at San Diego, to join in the group's golf activities. He may be reached at CY-8-8331.

Astro, Convair Teams Vying

Ten teams will vie in a two-league IRC volleyball tourney going into action next week, said Pete Beyrer of CRA, who is in charge.

Six teams will compete in the Wednesday night league playing at Balboa Park's Muni Gym, and four in the Friday night league on the same courts.

Included are two GD/Convair teams, Convair Engineering and Spacemen. Astro teams are Astronets, Support Documentation, Hounds, Reliables, Project Support, and Design. Two teams made up of municipal employees are Park and Recreation and City Engineers.

Top teams from each league will play off for the championship.

Schedule for the next two weeks is:

WEDNESDAY LEAGUE

April 4—7 p.m., Convair Engineering vs. Astronets; Support Documentation vs. Hounds.

8 p.m., Park and Recreation vs. Reliables.

April 11—7 p.m., Convair Engineering vs. Hounds; Astronets vs. Reliables.

8 p.m., Support Documentation vs. Park and Recreation.

FRIDAY LEAGUE

April 6—7:30 p.m., Project Support vs. City Engineers; Design vs. Spacemen.

April 13—Project Support vs. Spacemen; City Engineers vs. Design.

Last Call Sounded For Yater Tourney

Last call for entries in CRA's top golf tourney, Yater Memorial Trophy Tournament, is out this week. Deadline for registering is Friday (March 30).

Over 100 had already signed by press time, said Ken Wulfemeyer, CRA commissioner, who expects a field of 150.

All golfers intending to compete in the April 7-8, 14-15 play must call Wulfemeyer at ext. 1705, Plant 1, before 5 p.m., Friday.

The 36-hole medal play tourney will be held at Fletcher Hills Country Club.

Square Dancers To Graduate

Six squares of GD/Convair square dancers will join ranks of the proficient following graduation exercises tomorrow night (March 29) at American Legion Hall, 4061 Fairmount Ave.

Maury Scholz, CRA commissioner, said that 48 whirlers who have been learning fine points of square dancing during the last few months will be graduated in fun-style.

Presidents and wives of Heartland and San Diego Square Dance Associations have been invited to join the party. All CRA intermediate and advanced dancers will attend, too. Pie and coffee will be served during the evening.

At least ten squares of CRA dancers, 80 people, will be on hand at the All-General Dynamics Jamboree, sponsored by Astronautics, this coming Saturday evening, said Scholz. Square dancers are expected from GD/Pomona as well.

Intermediate and advanced Tuesday night sessions will continue throughout the spring and summer months at American Legion Hall. However, no other beginners' course is scheduled until fall.

Regular Water Ski Sessions Awaited

Water skiing at GD/Convair is still on a phone-call basis, reports Gene Sevigny, CRA commissioner.

When enough water skiers say that they are ready for every-week skimming on Mission Bay waters, regular weekend schedule will be set up, he said.

Now, Sevigny is accepting calls from everyone interested at ext. 1032, Plant 1.

Evenings Balmy as Trailerites Camp Overnight at Yaqui Pass

Warm, sunny days and balmy evenings provided the perfect setting for the 100 plus trailerites who traveled to Yaqui Pass in mid-March for the second anniversary outing of CRA Road Runners.

Thirty vehicles, campers and trailers, and 110 people caravaned to the desert site in the Borrego Springs area to make up the largest group yet to join in a weekend trip.

In addition to their celebration festivities and "birthday" potluck, they had the fun of surveying the countryside for desert flowers and new parks now being opened to the public.

They found fields of flowers just opening which soon will carpet the desert floors with bright blooms. Club spokesmen urged everyone who wants a real treat to drive out into the desert within the next two or three weeks before the short-lived flowers fade.

A new park area, Culp Canyon, attracted their attention for future trips. The rugged territory now is being developed for campers and will be left as much as possible in its primitive state, said Rangers Frank Fairfield and Strickland, county superintendent for De Anza Desert State Park. Both of the rangers spoke to the group at their Saturday evening campfire session.

At that time, Road Runners' president, Harry Rush, announced the group's intention of donating labor and material for rest rooms in Blair Valley. The undeveloped campsite on Imperial Hwy., south of Borrego, is becoming more and more popular with trailer groups and badly in need of some sort of facilities, he explained.

Peg Leg Mine, north of Ocotillo Wells, at one time thought to be original site of the famous gold mine, has been chosen target of the Road Runners' next outing in April. Dates and details will be announced later.

Rose Canyon Shades Jets

A hot Rose Canyon basketball team pulled three points out of the hat to win the GD/Convair shop league hands down in their final game March 15.

Rose Canyon hoopsters nosed out 990 Jets by a tight 43-40 score to finish second-round play undefeated. Since they had already won the first round, only dropping one game, the champ title was theirs without question. No play-off game was needed.

Individual trophies were handed to the winning team members at an awards dinner last Friday night in Convair executive dining room. Pete Beyrer, CRA representative, made the presentations.

Attending were CRA basketball commissioner, Gil Crosthwaite, and Rose Canyon players, Gil Chavez, manager; Ray Perez, Manuel Lujan, Dick Fenton, John Munson, Ken Hogan, Norman Dahl, Joe Kerna, Dale Sigmund.

Other final scores in last shop tilts saw Space Science forfeiting to Dept. 25 and Electronics winning over Servo, 37-29.

Color Guard Tops Fiesta

Color Guard of CRA Riding Club rode off with top trophy in their division for their performance in the "Fiesta de la Golondrinas" parade at San Juan Capistrano March 17.

Luke Barbour (Dept. 160) captained the riding group which has become well known for their many appearances in yearly events throughout the Southwest. Others riding in the parade which commemorates the return of the swallows to the Mission were Hap Manion, Jack Ethridge, Roy Sims, Mel Ishmael, Don Wescott, Jim Hill, and Turner Albright.

A number of GD/Convair riders who went along to cheer the Color Guard gathered for a steak fry following the parade. Chef Willie "Cowboy" Mansir (Dept. 180) presided at the grills. The remainder of the evening was spent at a dance sponsored by the Capistrano Chamber of Commerce.

The next morning they joined some 300 riders for a six-hour trail ride back into the hills surrounding Capistrano. This was one of the largest groups of riders ever to get together for a trail ride in Southern California in spite of drizzling rain throughout most of the day.

Next event for the GD/Convair Riding Club will be this coming Saturday (March 31) when families gather for a buffet and dance at the Gillespie Field Clubhouse.

It will start at 7:30 p.m. Games, group singing, and dancing will fill the evening. Music will be furnished by the Color Guard Combo, augmented by some of the musicians who played at the blow-out in Bldg. 3, Plant 1, the first of the month.

Everyone is asked to bring dips and chips for the buffet lunch.

ATOM FILM SLATED FOR CLUB MEMBERS

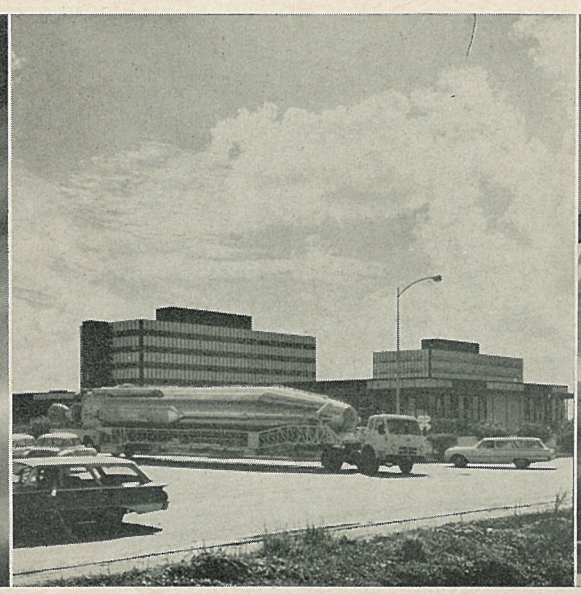
Tropical Fish Club members saw a Walt Disney film, "Man in Space," at their March 13 meeting.

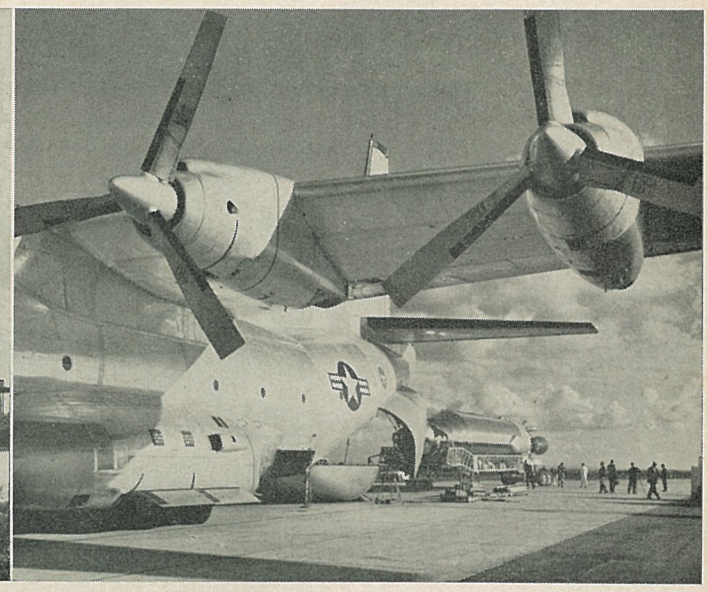
Schedule for the April 10 meeting at 7:30 in CRA Clubhouse includes the movie, "Our Friend the Atom."



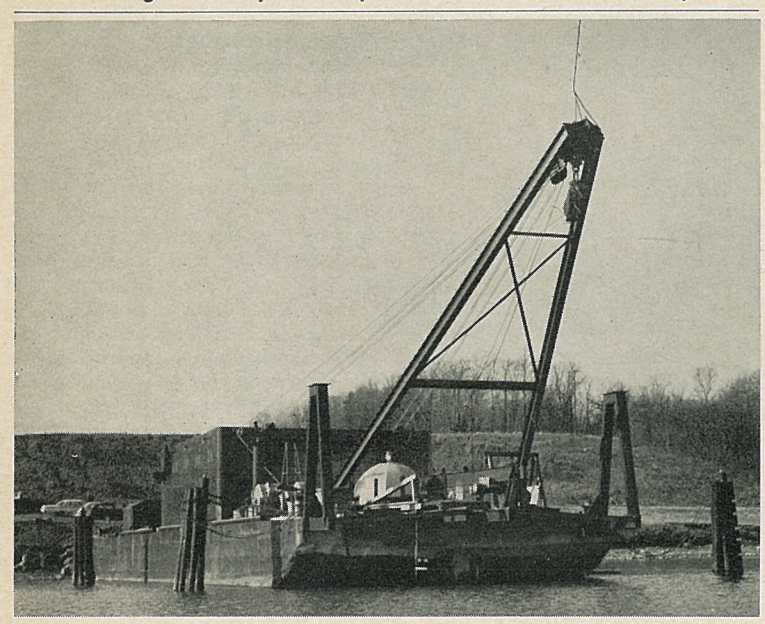
CHAMPS—Rose Canyon basketball team emerged undefeated champion of GD/Convair shop league play. Team members pictured are, from left (back row), Dick Fenton, John Munson, Ken Hogan, Norman Dahl; (front row) Manuel Lujan, Gil Chavez, manager, Ray Perez. Missing were Joe Kerna and Dale Sigmund.







OFF FOR CAPE—GD/Astronautics space launch vehicle engineer Dave Dixon, left, gives "okay" sign as Project Mercury Atlas missile No. 107-D left Astro plant at San Diego recently for Cape Canaveral. (Missile that placed Astronaut John Glenn in orbit was No. 109-D.) Dixon has been assigned to 107-D for "months," has followed it through assembly and acceptance, and rode with it in cargo plane on flight to Florida.



DARIUS AT DOCK—Floating anti-submarine warfare laboratory is shown on Seneca Lake, near Rochester, N.Y. It is center for GD/Electronics studies in this field.

Floating Test Lab at Rochester Seeking Break-Through in ASW

As Darius the Great opened the gateway between the Mediterranean and Red Sea, "Darius" the floating General Dynamics/Electronics laboratory, Rochester, N. Y., is seeking a new gateway in submarine detection.

Now docked at Seneca Lake, the 165-foot vessel will try to find new ways of detecting enemy submarines hundreds of miles away.

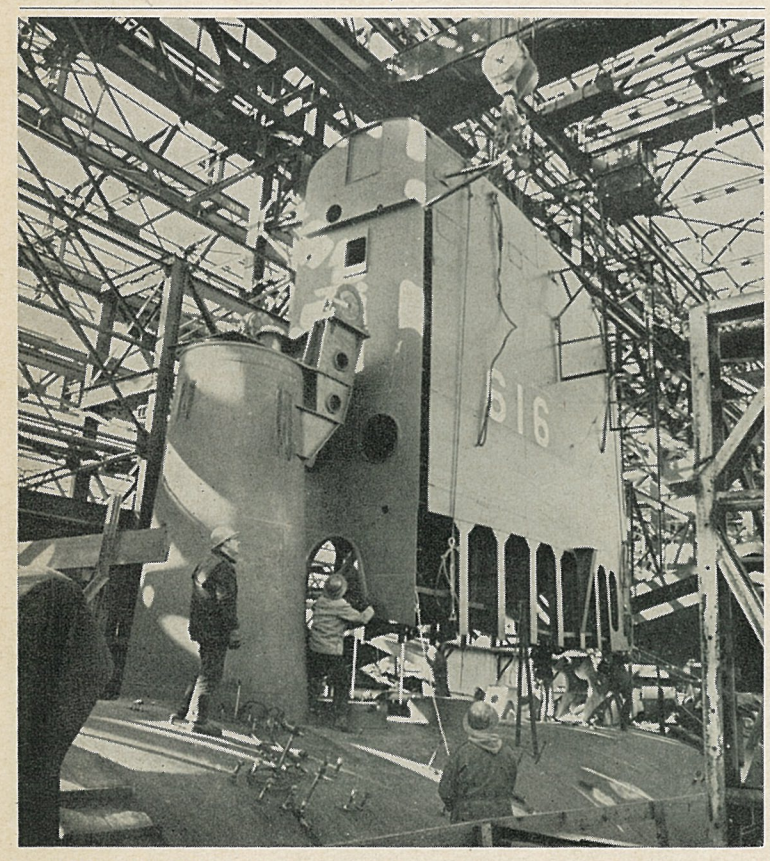
Harry B. Miller, manager of the advanced development electro-acoustics laboratory, named the vessel after the Persian king who, about 500 B.C., opened a tributary of the Nile, connecting the Red Sea with the Mediterranean.

SUTEC—the Senaca Lake Underwater Test and Evaluation Center—will play a key role in the nation's security system.

"We would like to be able to find a way to build a sort of 'wet' DEW line, an underwater system that warns of approaching submarines just as the DEW radar line to the north warns of approaching bombers or missiles," Miller said.

Test work at SUTEC is expected to go on around the clock when the barge moves out into the lake to test sonar devices in the 600-foot depths.

For this work it will anchor about a mile out in the lake. Miller explained that a big crane will lower transducers—sound sources—into the lake. Recording equipment will monitor sound waves and echos.



HOISTING SAIL—Six-ton sail (formerly known as conning tower) is guided into place on Polaris firing Lafayette at General Dynamics/ Electric Boat, Groton, Conn. Submarine, largest ever built, will be launched May 8.

Space Launch Engineers 'Live' With Missiles

Atlas missile 107-D, a Project Mercury "bird," is well known at the General Dynamics/Astronautics plant at San Diego, as well as at Cape Canaveral where it traveled recently.

But it is safe to say that Dave Dixon knows more about its history than any other single person.

Dixon, a space launch vehicle engineer in field test support, was selected to follow this particular missile almost from the start of manufacture, through assembly, pre-acceptance, acceptance and delivery to Florida. He will continue to keep in close touch for pre-erection checkouts, launch preparations and ultimate post-launch proceedings.

Assignment of a single individual to a particular bird is not an uncommon practice at GD/Astro, not only for launch vehicles designed for space probes, but for missiles going to static test or flight at research and development (test) bases. He works with many departments and sections and acquires a thorough knowledge of every phase of planning and scheduling, keeping exacting records and helping expedite in critical areas. He also is available to provide detailed information in advance to test conductors.

As a representative of the program director, in cases of space launch vehicles, he participates in acceptance, delivery and field operations.

Launch vehicle engineers such as Dixon report to either Walt Stoermer, directing support operations involving Cape Canaveral, Ed Mastaglio, handling captive test sites, or D. K. Squires, supervising GD/Astro Pacific Missile Range activities at Vandenberg AFB. They, in turn, report to T. L. Maloy, veteran GD/Astro chief test conductor, now assistant chief engineering-field test engineering.

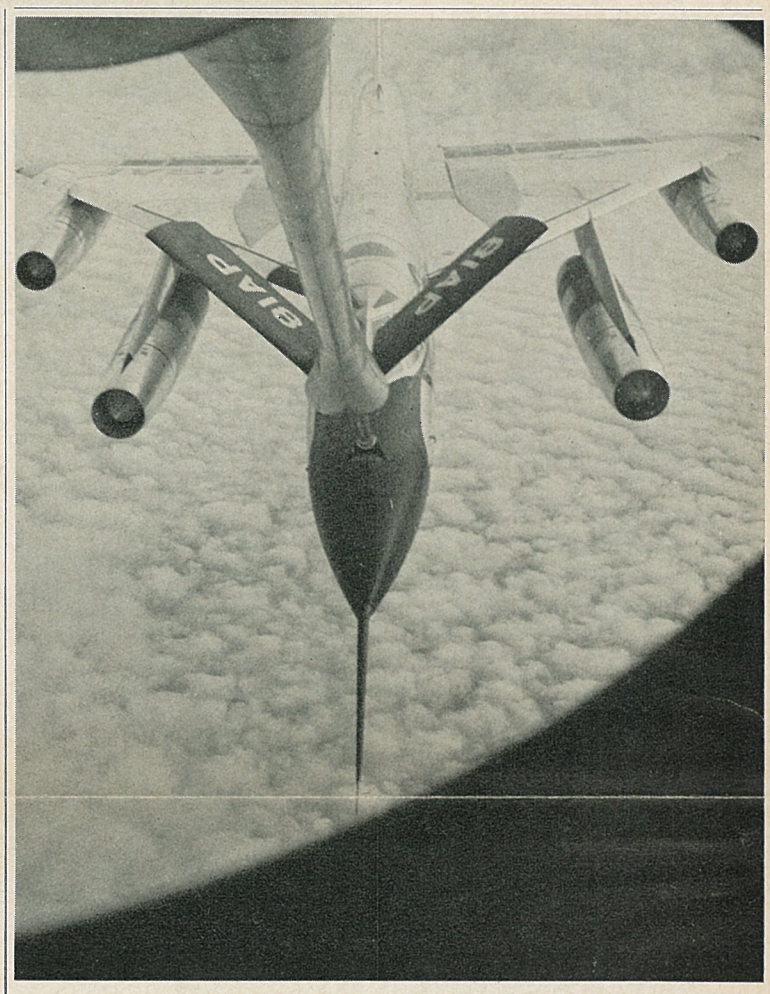
B-58 to Enter Competition

The B-58 Hustler will compete in 1962 Combat Competition—along with the B-52, B-47, KC-135 and KC-97 — an announcement from Headquarters, Strategic Air Command, revealed recently. Competition is planned for September.

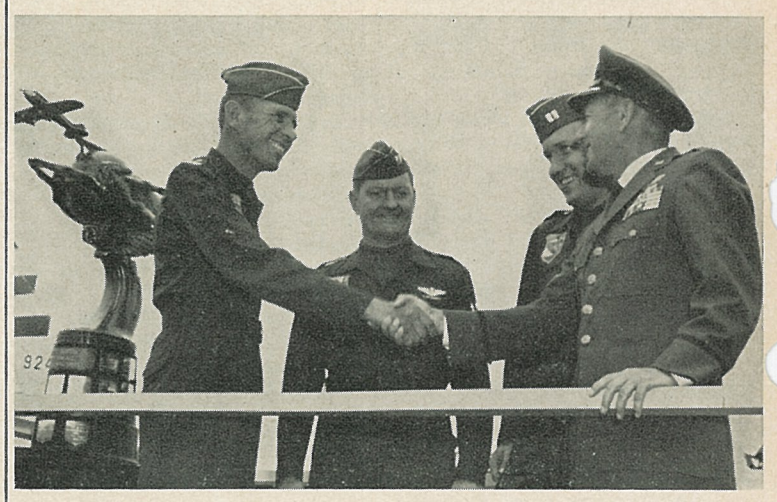
Making its debut in the competition in 1960, the Hustler chalked up the best pair of radar bomb scores and top individual high-level navigation run. Last year, the B-58 did not compete.

Awards will be made to best-of-crew in all types of aircraft flown. In addition, the best overall bomber and tanker crews will receive individual awards.

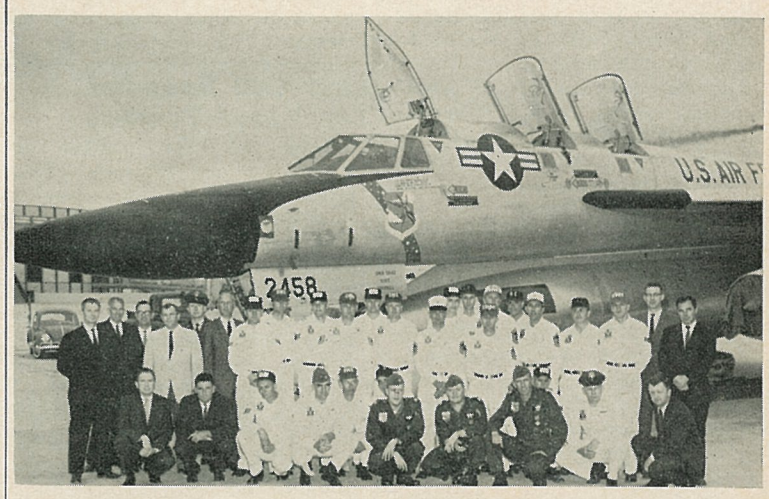
This year, in place of a central base of operations, bombers will fly from home bases to a point where the competition route becomes common to all competing aircraft.



CONNECTION—GD/Convair Photographer Bill Carter, flying aboard AF tanker, took this photo of refueling GD/Fort Worth-built B-58 on day B-58 flew across U. S. and back in 4 hours, 42 minutes. Time included 25 minutes for refueling over Atlantic. Plane averaged 1,212 mph west to east and 1,091 east to west.



REWARD—SAC crew of, from left, Capts. Robert G. Sowers, pilot, Robert MacDonald, navigator, and John T. Walton, DSO, get congratulations (and DFCs) from Gen. Thomas S. Power, SAC chief, following record round-trip run in Hustler. At left is Bendix Trophy.



FULL CREW—Air Force and General Dynamics personnel involved in B-58's record transcontinental flight are shown at Los Angeles prior to takeoff.

GDDDDDD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 8 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, April 11, 1962



VALUE TEAM—As value vs. cost searchlight swings through GD/Convair operations, (from left) W. W. Lynt, Harry Rote, Ray Black, Ken Atkin, examine 990 access door with H. P. Williams, value control manager (right).

Value Control Theory Explained to Students

Value control principles as applied by General Dynamics/Convair are becoming of increasingly greater interest to other firms, organizations, and educational institutions in the San Diego area.

Two groups of San Diego State College students, in answer to a direct request, received a bird's-eye look at the division's value control program late last month.

Majors in business administration, members of the college chapter of Society for Advancement of Management, were in the plant March 22 for a briefing. The following week Dr. C. H. Cruttenden's class in industrial geography sat in on the same presentation.

H. P. Williams, manager of value control, compressed material given during the regular 40-hour seminar into one-hour lectures. Touching on the high points, he explained value control principles and techniques, importance of its application in the highly-competitive world economic situation, how it ties in with good business practices to reduce costs and maintain product quality and reliability.

During both evenings, the groups saw application of value control to an actual piece of hardware.

Two-day seminars will be held for vendors and military representatives the first week in May, said Williams.

Indoctrination seminars were given last week to a total of 120 key personnel from various departments and C-141 engineers who had not, to date, received value control training.

Meanwhile, the fifth seminar for GD/Convair and GD/Electronics men started the first of this week (April 9) to continue for a two-week period.

Team reports at the conclusion of the fourth seminar March 23 showed a possible saving of 46 per cent overall on GD/Convair and GD/Electronics projects under consideration.

GD/Convair projects, team members, department numbers, and project leaders were:

Team No. 1—Method of Manufacturing C-141 Production Mockups: J. Freeman (45), W. G. Martin (400), C. L. Pogorel (23), J. C. Watkins (6), E. A. Zivolich (6). Project leader, G. K. Cox.

Team No. 2—Jet Transport Seal, Engine Air Leakage Duct: R. A. Bohler (6), R. V. Brunner (216), R. A. Krava (6), H. C. Leppart (45), J. W. Woodhouse (23). Project leader, Cox.

Team No. 3—C-141 Rudder Rib De-

(Continued on Page 2)

Reed Named Assistant to Neale; Cernuto Coordinates F4H-F-110

W. D. Reed was named assistant to R. A. Neale, vice president and general manager of General Dynamics/Convair, effective in mid-March.

He succeeds V. F. Cernuto who has been assigned full-time as project manager responsible for F4H-F-110 coordination, a key role during planning, bidding and proposal stages of seeking business. At the same time, F. H. McLaughlin was appointed factory manager in charge of all division manufacturing activities, Neale announced.

In his new post, Reed will be responsible for maintaining close surveillance over all activities involving manufacturing departments.

Before his present appointment he was manager of subcontract production at GD/Convair.

A native of Tennessee, Reed joined the division in 1941. He worked up through the ranks in assembly and final mating to become assistant general foreman in 1944 during the B-24 program.

In 1950 he was made general foreman in special projects and two years later promoted to superintendent of fabrication at Plant 1. He left the company in 1954 to spend several years in responsible positions with H & B Machine Co., at Indianapolis, Ind., and Beverly Hills, Calif., and U. S. Chemical Milling Co.

He returned in the fall of 1960 and was made assistant factory manager early the next year, holding that title until late last year when he was put in charge of subcontract production.

Final Judging On Club Grants Set For Today

Today is the day that decides the boy and girl to receive $1,000 apiece to help with their college education.

Six finalists in the annual scholarship contest of the General Dynamics/Convair Management Club go through final judging today (April 11).

Three are GD/Convair sons and daughters and three are GD/Electronics. They are Susan McCartney Ward, daughter of Philip L. Ward of GD/Convair marketing; Stephen Pazan, son of Edward C. Pazan, Dept. 48-11; Walter Smith, son of H. R. Smith, service publications.

GD/Electronics finalists are Christina Klumph, daughter of George B. Klumph, Dept. 5-5408; Carol Ann Russell, daughter of Robert E. Russell, Dept. 3-5270; Robert Kemper, son of Ivan L. Kemper, Dept. 3-5250.

Following examinations this morning, they will have luncheon, with their parents, judges, scholarship committee members, in the Convair executive dining room.

Dinner Hour Changed For Club's Meeting

Dinner hour has been changed for the coming General Dynamics / Convair Management Club meeting to allow more time for the extensive program.

Social hour at the April 18 meeting at Catamaran Hotel on Mission Bay will start at 5:30 p.m. Dinner has been moved up half an hour to 6 p.m.

Members are urged by James Hoerger, general chairman, to get their tickets as soon as possible at regular ticket outlets. Price is $2.50 each.

This meeting marks the club's 20th anniversary. Besides a special "birthday" observance, other features will be the presentation of the 1961 President's Award, annual club scholarships, MacSave-It and Mug of Month awards; nomination of officers; special entertainment, surprises, and raffle.

H. Leith Loder will speak on "Where Do We Grow From Here?"

Manufacturing control is sponsoring department.

MANAGEMENT CLUB WILL FINANCE DUES FOR TOASTMASTERS

General Dynamics / Convair Management Club will pay the way for the first 25 club members who apply for membership in the Dynamics Toastmasters Club.

M. L. Sweeney, education committee chairman of the Management Club, explained that the offer is open to both GD/Convair and GD/Electronics men.

Dues of $1.50 per month will be paid for 15 months for each of the 25. The men will be obligated to take care of the initial $6 initiation fee.

Meetings of the Toastmasters group are held at 6 o'clock each Thursday evening in the Convair executive dining room. Among special events planned is the tenth anniversary observance in May when all former members will be guests.

All Management Club members interested in the memberships are urged to contact Sweeney at ext. 1687, Plant 1.

Computer System Applied to C-141

A new concept in planning will have its first application on a production project following a current training program at General Dynamics/Convair.

As another phase in the integrated data processing system being developed within the division, precepts of a planning computer system will be applied to the C-141 project. Initial class was made up of 15 tool planning, tool planning control, and proof planning people, all actively engaged in C-141 work.

They were drawn from sections reporting to M. M. Hill and J. S. Williams, tooling supervisors, and S. J. Williams, supervisor of planning control and proof planning.

Within a couple of weeks a general familiarization on the system will be given all people from tooling, inspection, material, manufacturing control, indirectly involved in C-141 planning.

The program will lead to a central source of information within data processing on all manufacturing data which goes to make up master production parts lists, said Hill.

The production parts lists then will be made available to all departments which have need of the information.

Hill, with Ed Sieck, tool engineer, has been responsible for developing the computer system for planning, in conjunction with data processing programmers.

Instructing the two-week training course was Ray Crothers, tool engineer in planning, with Wayne Turner of educational services, coordinating.

Engineering first put its parts list into the computer system a year ago, followed by material which has integrated its internal parts list into the system.

Center Will Monitor Utility Cost Efforts

A control center has been established within General Dynamics/Convair to monitor all efforts in the continuing drive to reduce utilities cost. Estimated savings will be more than $200,000 a year.

The center, operated as the Utilities Economics Function, has been established in the resources engineering department. Main responsibilities are to record progress, expedite plans, coordinate policing of GD/Convair's drive to cut utilities expense.

This includes all use of electric power, natural gas, water, telephones, and allied uses such as in air conditioning, compressed air systems, steam generation, lighting and heating, said R. E. Bechtol, chief of facilities engineering.

"This is but another step in GD/Convair's continuing drive to reduce costs," remarked R. M. Hatcher, director of industrial engineering.

"We expect the total impact on the division's cost-cutting activities to be tremendous."

Formation of the control center came as a result of recommendations of the Utility Survey Corp., firm of utility economy specialists. Utility Survey consultants have been working within the division the last several months assisting departments in making engineering analyses and evaluations of service contracts.

The new control center is in charge of John Wazny of industrial engineering as coordinator with other industrial engineers assigned to the task. Center headquarters is in Bldg. 7.

Cost records, consumption charts and other data will be used to monitor utility costs. Progress charts on economies will be maintained. A definite program of policing is being set up to eliminate waste.

Drawing Time Near For Padre Tickets

Baseball time is here again! First drawing for Padre home game tickets will be this Friday (April 13), courtesy CRA.

Padres open the season at Westgate Park, April 17-19 against Tacoma; Spokane, April 20-22; Salt Lake City, April 24-26.

Entries must be at employee services, Bldg. 32, Plant 1, before 3 p.m. Friday afternoon. They may be dropped in the baseball drawing box on the insurance counter, or sent by in-plant mail, addressed to Baseball Tickets, Zone 3-20.

Each entry must contain full name, clock number, shift, department number, location, plant extension. Only one entry to a person is allowed.



COST SURVEY—J. G. Nigro, Utility Survey Corp. engineering director (center), consults with (from left) W. E. Wise, GD/Convair manager of resources engineering; John Wazny, industrial engineer; R. E. Bechtol, chief facilities engineering; Vern Sharp, chief maintenance and construction, on ways to cut utilities costs.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due during the period April 1 through April 15.

Twenty-five-year: Dept. 25-2, C. D. Saxon; Dept. 45-0, Michael McNally; Dept. 48-09, Charles Wallman; Dept. 129, Michael Alianelli.

Twenty-year: Dept. 1-31, Inez P. Schurr; Dept. 1-61, Ruby C. Splinter; Dept. 3-6, M. C. Val Dez; Dept. 14, H. G. Barnes, Elwyn Johnson; Dept. 25-1, W. T. Toon; Dept. 31, A. F. Binggeli, C. B. Howard, Audrey E. Jones; Dept. 44-5, L. E. Grigsby; Dept. 45-0, R. S. Wyllie; Dept. 48-62, O. E. Pennington.

Dept. 101, Hubert Bryant, E. B. Tutterrow; Dept. 115, V. I. Gregory; Dept. 140, C. O. Holba; Dept. 160, W. R. Ramsey; Dept. 170, L. E. Starkey; Dept. 171, L. C. Pollock; Dept. 400, R. E. Crawford, G. K. Watson; Dept. 401-5, L. C. Knapp.

Fifteen-year: Dept. 6-300, V. D. Winslow; Dept. 16-1, W. L. Symmonds; Dept. 17-0, L. A. Wood; Dept. 27-6, K. A. Kerr; Dept. 31, T. R. Harris, E. F. Quinn; Dept. 48-11, E. L. Swanson; Dept. 115, P. R. Evans; Dept. 129, L. F. Washburn; Dept. 140, Jeanne E. Dauley, Federico Garcia Jr.; Dept. 148, Alvie L. Courter; Dept. 149, R. S. Cooper.

Dept. 160, J. W. Morris, D. C. Olson; Dept. 171, J. W. Hickman; Dept. 180, E. L. Lampe; Dept. 204, E. H. Kuegeman; Dept. 216, Nettie M. Pritchett; Dept. 218, Christina M. Marquis; Dept. 400-7, W. J. Davies; Dept. 401, A. E. Grabe, H. F. Ingram.

Ten-year: Dept. 6, W. C. Braley, Billie H. Chadwick, L. D. Harris, H. M. Harvey, Geraldine B. Le Clare, R. D. McLeod Jr.; Dept. 11-0, Pauline C. Brown; Dept. 14, Ethel D. Barry, Nelda F. Fletcher, J. C. Fordice, Violet A. Gagne, Anna K. Hrynko, Anne D. Moreau; Dept. 16, Lois J. Nemshack, K. W. Overfield.

Dept. 21-2, Wimberly Theus; Dept. 31, R. N. Moxley; Dept. 44-3, Carmalettia Menas, A. F. Thorogood; Dept. 48, D. C. X. Gonzalez, Valentine Hoffman, Robert Moore, A. E. Oberg, Ruby P. Yansch; Dept. 91-7, Nelda S. Bradshaw; Dept. 101, Guillermo Espinoza; Dept. 102, Obie Neal; Dept. 115, B. R. Cummings; Dept. 129, Oscar Sweet; Dept. 138, H. V. Clothier; Dept. 139, J. D. Dorrel; Dept. 146, F. W. Ditmar Jr., Felipe Villa.

Dept. 160, C. H. Goodding, Marie S. Handel, C. M. Jayne; Dept. 171, D. E. Brown, W. G. Crawford, A. A. Pagani; Dept. 180, E. R. Fisher, G. R. Tiemann Jr.; Dept. 192, W. C. Bore; Dept. 215, R. P. Hanson, R. W. Nichols; Dept. 400, Mollie S. Dahlinger, Edna B. Gardner, E. L. Smith; Dept. 401-0, G. E. Walker.

GD/ELECTRONICS

Ten-year: Dept. 7-5155, E. M. Brown, Joseph Lisalda; Dept. 8-5123, J. R. Derrick.

Personals

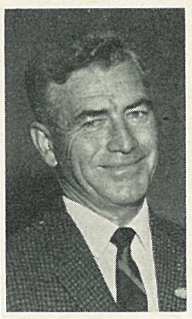
I would like to express my thanks to my Convair friends for their acts of kindness during my illness.

Vernice Gray (mail clerk)
Dept. 26-2.

Lost & Found

CONVAIR

REWARD—$5 offered for return of seaplane model P5M removed from my desk in systems analysis department, third floor, Bldg. 5, Plant 1. Personal value. R. W. Vannatta Jr., ext. 1512.



Walter J. Lawr, Dept. 24-2, GD/Convair, recently received 25-year service emblem from R. A. Neale, GD/Convair vice president and general manager.

Retirements

CONVAIR

BLAKELEY—Minnie M., Dept. 216. Seniority date Oct. 20, 1947, retirement effective March 27, 1962.

DAVIS—Oscar, Dept. 25-1. Seniority date Sept. 7, 1948, retirement effective March 26, 1962.

DIAZ—Jesus H., Dept. 25-1. Seniority date April 2, 1952, retirement effective March 1, 1962.

HUCHTHAUSEN—Adolph, Dept. 145. Seniority date Jan. 11, 1952, retirement effective March 14, 1962.

JACOBSON—Alton L., Dept. 14-8. Seniority date Jan. 30, 1951, retirement effective April 1, 1962.

SHULER—Adrain M., Dept. 401-5. Seniority date Nov. 14, 1941, retirement effective March 30, 1962.

TALLEY—Horace C., Dept. 3-1. Seniority date Aug. 16, 1950, retirement effective Feb. 10, 1962.

TOTEDO—James L., Dept. 25-1. Seniority date Jan. 9, 1951, retirement effective March 30, 1962.

WHITELEY—Robert V., Dept. 401-1. Seniority date Sept. 18, 1952, retirement effective April 1, 1962.

GD/ELECTRONICS

McILROY—John H., Dept. 5. Seniority date Feb. 23, 1954, retirement effective March 30, 1962.

Rider-Driver

CONVAIR

RIDES WANTED—Hours: 7 a.m. to 3:30 p.m. from Mission Village to Plant 1. Mona Santiago, home phone, BR-8-4459, or plant ext. 563.

Hours: 3:30 p.m. to 12 midnight, from 2426 Meadow Lark Drive, Mesa Hills to Plant 1. G. M. Tessereau, home phone BR-7-0960, or plant ext. 2151/2152.

Hours: 8 a.m. to 4:30 p.m. from North Clairemont to Plant 1. Isabelle Corbett, home phone, BR-3-2560, or plant ext. 2963.

Hours: 8 a.m. to 4:30 p.m. from North Clairemont to Plant 1. Catherine Malcangio, home phone, BR-3-0263, or plant ext. 1010/1574.

Hours: 8 a.m. to 4:30 p.m. from 1395 Morena Blvd. to Plant 1. Irene Graham, home phone, BR-6-1258.

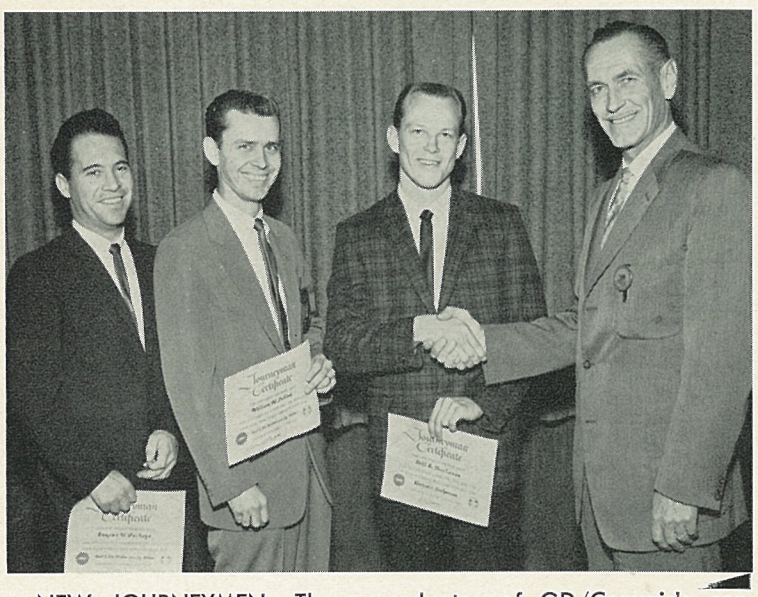
Hours: 8 a.m. to 4:30 p.m. from Clairemont Quad to Plant 1. Martha Lumsden, home phone BR-6-2666.

Hours: 8 a.m. to 4:30 p.m. from Northeast Clairemont to Plant 1. Jerry Larson, home phone, BR-3-1302, or plant ext. 2215.

Hours: 8 a.m. to 4:30 p.m. from El Cajon to Plant 1. Lotus Thorp, home phone, HI-4-0175, or plant ext. 1236.

* * *

RIDERS WANTED—Hours: 7:30 a.m. to 4:30 p.m. from Lemon Grove to Plant 1. Bill Bullock, home phone HO-3-0666, or plant ext. 2842.



NEW JOURNEYMEN—Three graduates of GD/Convair's continuing apprenticeship program receive journeymen's certificates from W. D. Reed (right), assistant to GD/Convair vice president and general manager. They are (from left) Eugene W. Pacheco and William M. Cullum, tool and die makers; and Bill E. Moilanen, electronics technician, now with GD/Electronics.

General Dynamics NEWS

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Convair, Astro Teams to Meet

Sharpshooters of CRA Pistol Club are getting primed for first duel with Astro Pistol Club, scheduled for April 22.

Convair's club will field two teams of four men each in the first of a series of bi-annual events, said Ash Bishop, CRA commissioner. A perpetual trophy will go to the winning club.

Top scorers, who will represent the CRA group as a team in competitive events for the next three months, are Jim Halfacre, Carl Hornburg, Vern Mardis, Joe Williamson.

The new pistol team was selected on the basis of high aggregate scores shot in Short National matches during the last quarter, explained Bishop. Halfacre (Dept. 180), had top score of 799; Hornburg (Dept. 139), 782; Mardis (Dept. 34), 780; Williamson (Dept. 401-5), 777.

Results of the CRA pistol matches March 25 saw Hornburg taking both the master class of the .22-cal. Pistol Course with a 286 and winning the .45-cal. Short National with 252.

Williamson was second in the master with 285; Bishop, third, 282.

Other Police Course winners were—expert class, Ralph Picard (GD/Electronics Dept. 6), first, 279; Dale Young (Dept. 31), second, 271; Ernie Bickar (Dept. 215), third, 262.

In the sharpshooter class R. G. Lair (Dept. 401-2) was first with 244. Bill Mentlick, whose father is in Dept. 401-2, was second with 239 and Marty Hudson (wife in Dept. 3), third, with 219.

Bishop was runner-up in the Short National with 246; Bickar, third, 244; Mardis, fourth, 238.

CRA, ARA Join For Rose Show

For the first time CRA and ARA Garden Clubs will join in presenting the annual spring rose show this Sunday (April 15) in Floral Association Bldg., Balboa Park.

Gene Zimmerman, CRA commissioner, and Everett Henderson, ARA commissioner, remind all General Dynamics gardeners, whether they are members of the clubs or not, that they are welcome to enter blooms.

Entries will be accepted at the Floral Association Bldg. between 7 and 11 a.m. on show day. Following judging, doors will be open to the public from 1 to 6 p.m. without admission charge.

Roses, which must be grown by exhibitors, may be entered in 34 classes. Six classes in arrangements, three in corsages (roses, orchids, and a class for other flowers), and two children's classes are included.

Best of show rosettes and merchandise prizes will go to best single rose, three roses, six mixed, florabunda, grandiflora, arrangement, child's arrangement, corsages, and "queen of show," selected from rose classes one through 30.

Entry lists are available at employee services, GD/Convair.

Other garden club activities will see many GD/Convair and GD/Astro rose growers exhibiting in the coming San Diego County Rose Society show April 28-29, in the Conference Bldg., Balboa Park.

Zimmerman reminded all CRA Club members that the April 11 meeting has been cancelled.

Promotions

CONVAIR

Promotion effective March 26.

Dept. 5, Planning: To chief of program planning, E. P. Pennebaker Jr.

Births

CONVAIR

FORNATARO—Son, Martin Peter, 8 lbs., 4 oz., born March 15 to Mr. and Mrs. R. J. Fornataro, Dept. 6.

Deaths

CONVAIR

MARKS—Hubert D., Dept. 15. Died March 25. Survived by wife, Helen M. Marks.



CERTIFIED—R. J. Bowers, FAA supervising inspector based at GD/Convair (right), hands W. J. Martin, director of quality control, production certificate covering Convair 990.

Scout Appreciation For Con-Trib-Club's Donations Expressed

GD/Convair Employees' Con-Trib-Club was recognized for the help it has given, through Con-Trib donations, to the San Diego County Council of Boy Scouts at the March 28 meeting.

John Ackerman, Boy Scout executive, and Harvey Chambers, president of the Council, presented a plaque to J. K. Field, chairman of Con-Trib Committee. They reported on progress of Camp Mataquay and extended an invitation to the open house program on the Fourth of July.

Other business saw the committee voting $500 to Pathfinders of San Diego, Inc.; $4,000 to San Diego Society for Crippled Children; $5,000 to the American Cancer Society.

Final payment of $3,325 on the SD Zoo's bus was approved.

PRODUCTION TICKET FOR 990 RECEIVED

Convair 990, latest model jet airliner built by General Dynamics/Convair at San Diego, received a production certificate late last month from Federal Aviation Agency.

The certificate, which now covers all Convair-built transports, authorizes production manufacturing in conformance with the type certificate awarded in December of 1961.

Under the production certificate, 990s may be built under the FAA designee system, explained W. J. Martin, GD/Convair director of quality control and production flight.

Now, instead of FAA inspectors approving each aircraft, approved GD/Convair quality control inspectors and production flight pilots act as FAA designees during construction and test stages.

Value Control Theory Explained to Students

(Continued from Page 1)

sign: R. E. Dietz (6), D. J. Markovich (24), P. L. Pittman (43), C. E. Rice (137), E. M. Ogden (6). Project leader, R. J. Haney.

Team No. 4—C-141 Vertical Stabilizer Trailing Edge: D. A. Liebel (6), S. R. Milis (6), D. E. Palumbo (148), L. C. Simon (34-5), M. D. Weisinger (23). Project leader, Haney.

Team No. 5—Engineering Change Approvals: M. B. Fuhrmann (129), B. Graham (6), J. J. Kelly (27-1), Y. Z. Morris (400), T. N. Munn (6). Project leader, R. L. Black.

Team No. 6—Jet Transport Adjustable Front Engine Mounts Link—C. C. Baker (171), W. P. Easley (6), E. M. Franzel (25), R. H. Lange (14), R. E. Pearce (6). Project leader, Black.

Team No. 7—Manufacturing Planning: R. D. Chesler (6), F. E. Hamlin (292), W. R. Holmes (48), C. L. O'Rourke (27), C. S. Strand (31). Project leader, R. J. Campbell.

Team No. 8—Jet Transport Krueger Flap Actuator Attach Bolts: G. R. Bailey (48), P. D. Miller (34), S. B. Stevens (6), G. T. Waite (6), E. H. Wallrabenstein (215). Project leader, Campbell.

GD/Electronics had two teams, both under L. Resnick as project leader:

Team No. 1—Pitch Servo Drive: J. B. Allen, E. N. DeJonge, A. J. Johnson, C. Licastri, W. R. Schultz.

Team No. 2—3,000 Volt Power Supply: A. R. Eicher, S. N. Garff, P. L. Mathewson, R. G. Steadman, F. B. Wagner.

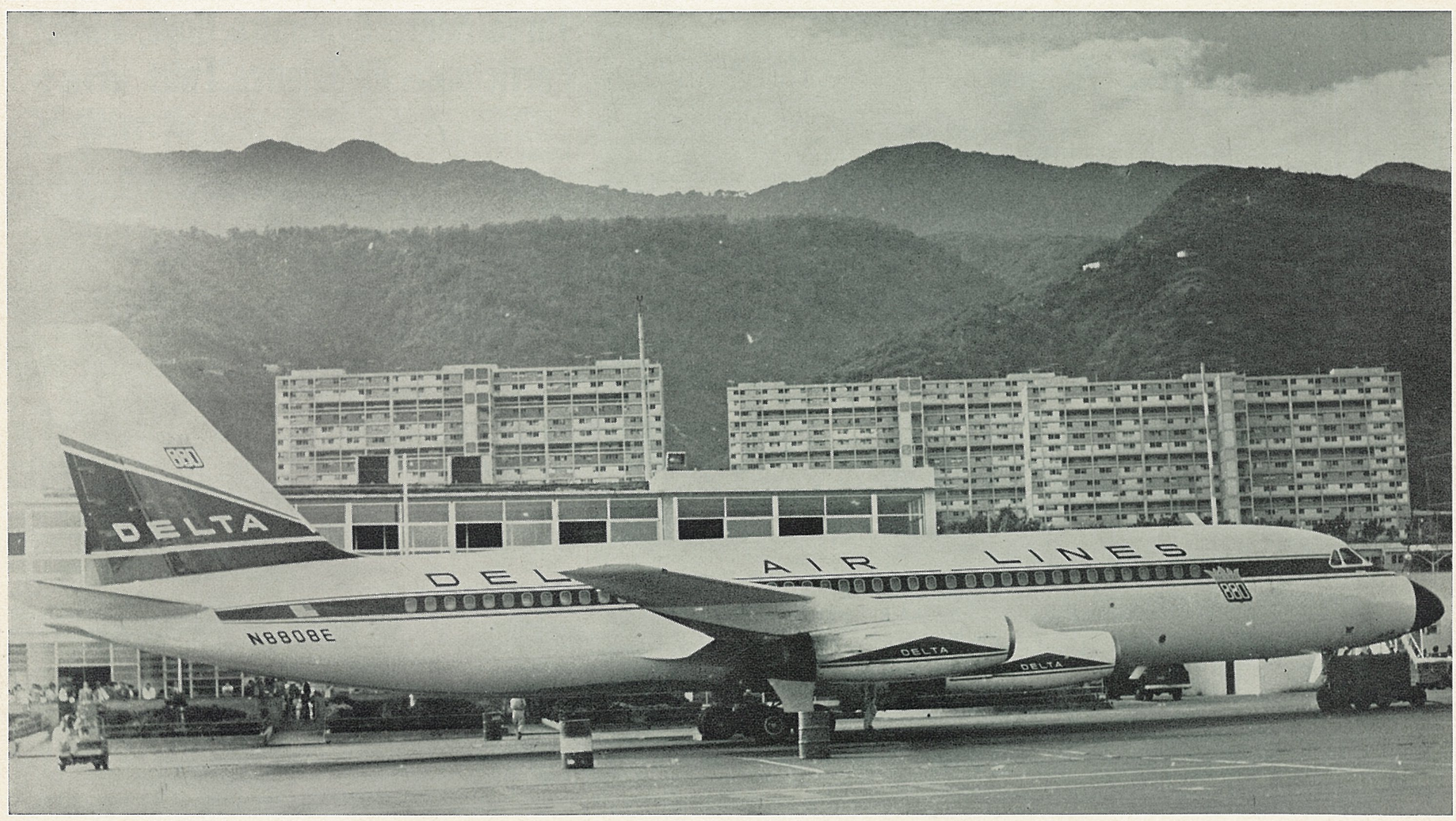
Budros Appointed To Post At Astro

J. L. "Jim" Budros, 20-year industrial relations veteran, has been appointed manager of employee and labor relations at General Dynamics/Astronautics.

He will be responsible for labor relations, medical, safety and off-site industrial relations matters. Budros formerly was Corporate director of personnel administration in San Diego.



FOURTH FINISH—At top are GD/Electronics men recently completing fourth value control seminar in continuing GD/Convair training program. Lower shot shows GD/Convair men who made up eight teams during two-week session.



FAR PORT—Delta Air Lines' Convair 880 is shown at Maiquetia Airport at Caracas, Venezuela. Delta 880 flights now connect San Francisco, Jamaica, Venezuela. Two round trips weekly will soon be operated between Los Angeles and Caracas. Jet 880 flights, Los Angeles to Puerto Rico, start May 1.

Northeast Airlines' Six Jet 880s Updated After Year of Service

Convair 880s flying over Northeast Airlines' eastern routes have just received their first major overhaul and inch-by-inch inspection in a three-month updating program.

Each of the six 880 jetliners was brought into Logan International Airport at the airline's Boston headquarters to go through a minute examination after 3,000 hours in the air. First of the Convair jets went into service with Northeast in December of 1960. All of the Convair planes fly the scheduled runs between Southern Florida and Montreal.

Now, all six in the 880 fleet have been disassembled, examined, cleaned, painted, and thoroughly inspected, then flight tested, before going back into harness. Even though the Convair jetliners appeared "almost brand new" after nearly a year in use, said Northeast officials, the job was done to keep them in perfect mechanical condition during the heavy tourist season to Florida.

The 880 overhaul project included everything from complicated X-ray and ultrasonic inspection of parts to thorough cleaning and germ-proofing of passenger cabins.

Supporting 880 operations with Northeast is Walt Belliston, General Dynamics/Convair transport field service representative, based at Boston.

GD/Astro's Meister To Speak in Utah

David Meister of General Dynamics/Astronautics will be among speakers at the three-day IAS National Aerospace Systems Reliability Symposium in Salt Lake City, Utah, April 16-18.

Meister, of Astro's human reliability requirements group, will speak on "The Prediction and Measurement of Human Reliability" at the Tuesday session on personnel subsystem reliability.



POLISHED—Anthony Contrada and Angelo A. Cornetto of Northeast Airlines buff 880 skin to mirror-like finish as last step in major overhaul.



CARGO HAULER — Handlers load cargo aboard Delta 880 for fast transit coast to coast.

VALUE ENGINEERS ORGANIZING AT SD

Notices went out to 300 representatives of more than 80 San Diego companies, military, and civic offices inviting them to become charter members of the new San Diego Chapter of SAVE (Society of American Value Engineers) at last night's membership dinner.

H. P. Williams, GD/Convair value control manager, is chairman of the planning committee in charge of SAVE organization in San Diego.

Those signing for membership at the April 10 meeting, held in the Convair cafeteria, will meet for an election of officers within the near future, he said.

E. D. Heller, GD/Pomona value control coordinator and newly-elected SAVE national secretary, was a member of the panel giving aims and objectives of local SAVE organization.

Others were Anthony R. Tocco, president of the national SAVE organization; J. S. Rensen, Los Angeles SAVE program chairman; J. A. LePage, Rohr Corp.; H. F. Hansen of United Air Lines; and D. D. Shirk of Solar.

HELLER SPEAKER AT SOCIETY MEETING

E. D. Heller, General Dynamics/Pomona value control coordinator, was main speaker last week at the Industrial Estimating Society of San Diego, Inc. Meeting was at Town and Country Hotel in San Diego. His topic was "Value Control and the Estimator."

Delta Gives 880s Credit As Partly Responsible For Jump in Air Cargo

Delta Air Lines is crediting their Convair 880 jetliners with a great share in the airline's upsweeping cargo business.

Since Delta began jet service cross-country from southeastern points to California last June, Delta's cargo business has shown marked increases over the same periods in the preceding year. In February, alone, there was a 46 per cent increase over that month a year ago.

Convair 880s fly about a quarter of Delta's total cargo ton miles.

Delta now operates six jet flights daily from the southeast to California with 880s flying four of the schedules.

"Jets have been the big boost to the upswing in cargo," said Delta's manager of cargo, John Pogue.

"Specifically, in the case of the 880, its speed and turn-around capability offer great utilization. Frequency is better than great lift in cargo shipping, and the 880 certainly provides the frequency."

Delta is the only airline which serves a number of the nation's top missile areas—Cape Canaveral, through Orlando; Houston, New Orleans, and Huntsville, Ala., through Birmingham, all linked with California points.

"Cut flowers from California provide Delta with one of its best West Coast accounts," Pogue said. "Flowers can be shipped from Southern California in the morning and delivered to florists in the southeast during evening of the same day."

Delta, first airline to fly the 880, now operates 12 of the Convair jet transports with four more to be delivered in the next few months.

It will expand its network with through-plane jet service between Los Angeles and San Juan, Puerto Rico, on the first of May. In addition, two round trips weekly will be operated between Los Angeles and Montego Bay, Jamaica, and Caracas, Venezuela.

Delta began 880 flights from San Francisco to Caracas last December.

GD/Astro Engineer To Keynote Course

John McLeod, General Dynamics/Astronautics engineer, will deliver the keynote address at the Eleventh Annual Instrument Short Course to be held April 17 and 18 at Los Angeles Harbor College, Wilmington.

He will speak on "Measurement and Control—the Challenge Today and Tomorrow."



". . . I hope you don't mind . . . I couldn't find the cork."

Convair Eagles Trail at Half But Squeak Out Title Victory

Convair Eagles basketball squad came from behind to win the championship in the Municipal League play-off March 20.

Their decisive game with Bookie's All-Stars saw them lagging by 8 points at the half. They spurted ahead to catch up and lead the All-Stars by one mark, 53-52, in a rousing finish.

Convair's varsity squad, which last year took the Industrial A title, was undefeated throughout second-half play. However, they had finished the first round tied with Bookie's All-Stars and had to settle the score with the play-off tilt. Six teams were entered in the Muni League, sponsored by City Park and Recreation Department.

Ralph Smith of the department handed out individual trophies to the Eagles and team trophy to the overall runner-up squad, Old Town Tamale Factory, at an awards dinner March 27.

Convair players attending the affair at El Morocco Restaurant, Lemon Grove, were Mel Stilson, Curt James, Bill Bullock, Dee Trepanier, Jim Reichert, Gordon Place, Charles Wright, Dick Huntington, Sal Tarango, and Gil Crosthwaite, manager.

Road Runners to Hit Trails to Desert

Road Runners will be hitting the trail to the desert again this weekend on their April 14-15 outing.

They will camp overnight near Peg Leg Smith's Mine Monument in the Borrego area. At least 20 or 25 vehicles are expected to join the caravan, said Ed Miner, wagonmaster.

Details can be had from Lowell Ward, ext. 1825, Plant 1.

All members of the CRA trailer group are urged to attend the April 19 executive board meeting 7 p.m., at Gillespie Field Clubhouse.

WRITER TO SAIL AROUND WORLD

Four years of dreaming, saving and working ends for Frank Berberich, technical writer at GD/Convair, when he breaks anchor May 1 for far ports.

That's the date on his calendar for hoisting sails of his 40-ft. ketch "Destiny," for a leisurely round-the-world trip.

His wife, Dorothy, and black Siamese cat, Sam, make up the crew.

"It may take three years—or five. We couldn't care less," said Berberich, before resigning from Dept. 16-1 the first of this month.

Berberich, who has been helping compile jet transport flight manuals at GD/Convair since 1958, has commissions from magazines to do on-the-spot boating articles.

Public Gets a Look At Latest Jetliner

A Convair 990 jet airliner was displayed to the public for the first time in San Diego at Sunday's open house commemorating Miramar Naval Air Station's 10th anniversary.

Visitors had a chance to tour interior of the plane and have a close-up look at the jet engines.

The static display of the 990 was sponsored by American Airlines, General Electric, and General Dynamics/Convair.

Cathay Pacific 880-M Flies to Hong Kong

Cathay Pacific's Convair 880-M left San Diego on schedule March 31 at 9:22 a.m. for its home base in Hong Kong.

It touched down at Honolulu before going on to Hong Kong, landing there Sunday (PST) at 7 p.m., or noon Monday, Hong Kong time. Flying time was 17 hrs., 11 min.

GD/Convair crewmen aboard were Sherm Johnson, production flight pilot, and Chuck Falkenthal, flight engineer, who will be with Cathay Pacific Airways, Ltd., for several weeks as the Convair jetliner is readied for service.

GD/E Daughter Wins SD Spelling Crown

Joseph Mitchell of General Dynamics/Electronics at San Diego is taking bows all around for the prowess of his 14-year-old daughter, new champion ninth-grade speller for San Diego County.

Lorraine, student at Academy of Our Lady of Peace, defeated all contestants in the fourth annual spelling bee. Her nearest competitor went down for the count on "facsimile." Lorraine then spelled "hypocrisy" correctly to cinch title and trophy.

Entered in the contest were ninth-grade students from city, county, parochial, and private schools. It was Lorraine's first try at spelling competition.

Salvage Schedule For Month Listed

Salvage yard schedule for the next four weeks at GD/Convair and GD/Astro sites is:

GD/Convair—April 14, 28.

GD/Astro—April 21, May 5.

Three Score Dynamics Boys, Girls Participate in Science Fair

Fifty-eight General Dynamics youngsters participated in the Eighth Annual Greater San Diego Science Fair, held last week in Balboa Park's Federal Building.

The Fair included 323 choice exhibits selected from hundreds prepared by junior and senior high school students in city and county schools.

Students worked independently on projects ranging from nuclear physics to digital computers, displaying results of their research in exhibits and demonstrations. Here, they were judged by top scientists from local industries and educational institutions.

GD/Astro contestants winning special recognition were Robert A. Breeze and James McCabe (firsts); Franz M. Jaggar, Donald R. Moeller and Joe Tanalski (seconds); and Michael Creutz, Diane Sylvester, Susan Hurlich, Catherine Jaegly, and Charles Getzoff (thirds).

Singled out for honors were GD/Convair youngsters Lauren Jones (first); Richard A. Brown (second); and John J. Valentino, Carolyn Shepard, Royce B. Riggan Jr., and Sandra Ann Qualiato (thirds).

From General Atomic were Carl Creutz and Gregory C. Mattson (firsts) and Sharon Wilkins and Gregory Simmons (thirds). Other Dynamics winners were Gwen Breslauer (first), Glenn Scott (second), and John R. Murphy (third).

In addition, 29 scientists and engineers from GD/Astro; 17 from General Atomic; and three from GD/Convair and GD/Electronics served as judges, staff members, and counselors.

Included among competitors were David Bard (Mr. and Mrs. Howard Bard); Richard A. Brown (Mr. and Mrs. R. H. Brown); Susan Callihan (Mr. and Mrs. H. W. Callihan); Michael Darr (Mr. and Mrs. G. L. Darr); Gerre Grenolds (Mrs. Eleanore P. Grenolds); Lauren Jones (Mr. and Mrs. W. C. Jones); Sandra Ann Qualiato (Mr. and Mrs. S. B. Qualiato); and Royce B. Riggan Jr. (Mr. and Mrs. R. B. Riggan).

Also, Adeline M. Santos (Mr. and Mrs. A. G. Santos); Carolyn Shepard (Mr. and Mrs. F. N. Shepard); Brian Sherman (Mr. and Mrs. R. M. Sherman); Thomas W. Todd (Mrs. V. M. Todd); John J. Valentino (Mr. and Mrs. Joseph Valentino); and Kathy M. Way (Mr. and Mrs. Thomas Way), Alexander Lorentson (Mr. and Mrs. A. Lorentson); Gwen Breslauer (Mr. and Mrs. M. H. Breslauer); John R. Murphy (J. J. Murphy); Glenn Scott (Forrest L. Scott Jr.); and Paul Seeley (Mr. and Mrs. W. H. Seeley).

General Atomic youngsters competing were Darryl Adams (Mr. and Mrs. H. R. Adams); Carl and Michael Creutz (Mr. and Mrs. Edward Creutz); Gregory C. Mattson (Mr. and Mrs. P. T. Mattson); Lynn Miller (Mr. and Mrs. Charles Miller); Kent W. Newby (Mr. and Mrs. G. A. Newby); Gregory Simmons (Mr. and Mrs. Webb Simmons); and Sharon Wilkins (Mr. and Mrs. J. E. Wilkins).

General Dynamics/Electronics youngsters competing and their parents were Thomas A. Bankhead Jr. (Mr. and Mrs. T. A. Bankhead); and Janet Sue Hite (Mr. and Mrs. J. W. Hite).

Feminine Eyeglass Frames Available

Three styles of eyeglass frames, designed especially for the ladies, have been added to those on display at GD/Convair's safety crib.

Called La Femme line, they come in smoke, black, and mahogany, said M. C. Val Dez, chief safety engineer. Cost of frame, safety lens, and case is approximately a third of normal retail prices.

Prices range from $8.55 for single vision lens to $15.55 for bifocal and trifocal lens.



AND QUIET, TOO—Nate Waddington, GD/Electronics senior electronics engineer at San Diego, poses in executive environment to call attention to S-C 3070 electronic printer which can produce messages at 3,000 words a minute! Developed by GD/E, printer is expected to sell in $15,000-$16,000 range.

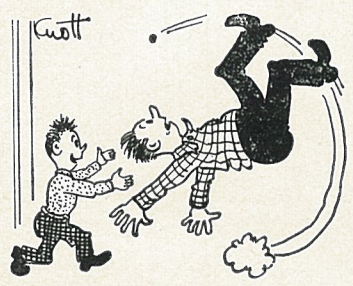
Fourth 4020 Computer Leased By GD/E to North American

General Dynamics/Electronics at San Diego announced last week it has leased a fourth S-C 4020 High Speed Computer Recorder to North American Aviation, Inc., builder of the Apollo space vehicle.

The S-C 4020 will record data generated by an IBM 7090 computer onto 35mm microfilm or 9½-inch wide photorecording paper. The recorder utilizes electron beams to plot graph curves at 2,500 points per second—more than one thousand times faster than available mechanical curve plotting devices. In addition to its graph and part drawing capability, the S-C 4020 can also be used to print alphanumeric tabular information at speeds of 6,000 lines per minute. North American will employ the unit at the Space and Information Systems Division at Downey, Calif., where the Apollo is being built.

GD/E is leasing the recorder under a contract of more than $85,000 a year. Last year North American leased three other S-C 4020s in an arrangement which totalled more than a quarter-million dollars annually. The recording systems are located at their various divisions in Southern California.

The S-C 4020s are used to provide instantaneous records of scientific, engineering and business data. They can be used in the business and management area for such diverse purposes as cost analysis and planning the best layout of machinery within a plant.



"Thanks, Pop! I've been looking all over for that marble."

Component Assembly Time Reduced With 'Lazy Susans, Ferris Wheels'

"Lazy Susans," and "ferris wheels" are speeding operations and boosting reliability in assembly of electronic components in General Dynamics/Electronics production at San Diego.

Unique assembly fixtures, which permit work on five units at a time, were conceived by GD/Electronics production engineers to facilitate assembly of small electronic devices. They replace the standard type of fixtures which can hold only one unit at a time.

Now, girls can whirl the wheels to put the same components—relays, transformers, transistors, jumper wires, plugs, etc.—on all five units simultaneously, instead of laboriously going through as many as 150 operations on one assembly, then starting all over again on another.

"The new wheel-type assembly fixtures have proved invaluable in limited production of up to a couple of hundred units," explained George Patrick, production engineering supervisor. "Over that number, an assembly line would be set up.

"Five units can be assembled now in the time it used to take to complete two!

"And, most important of all, quality and uniformity of assembly have improved beyond all expectations."

As Patrick pointed out, the "lazy Susan" wheels not only speed assembling of such items as electronic amplifiers, sub-assemblies such as power supply assemblies and terminal boards, but make the work interesting and challenging.

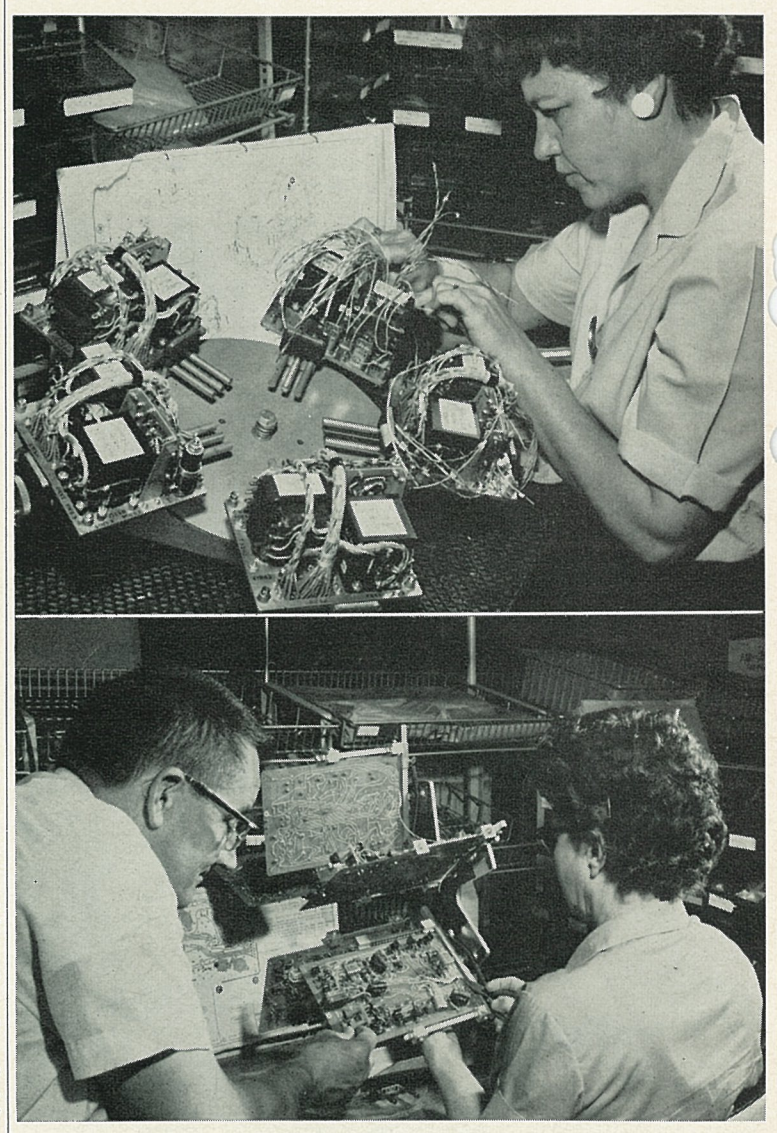
"It keeps the assemblers alert and gives them a chance to correct any errors before all five units are completed."

The "lazy Susan" type was the first multiple-unit fixture designed and put into use a couple of months ago. However, although this flatwheel type worked out well for small assemblies, when larger assemblies were attached, too much surface space was required.

An improved concept, the upright "ferris wheel" type, suggested by one of the women assemblers, Emily Tilton, provided the solution.

This fixture can hold five printed circuit boards in place within a small area so that they can be revolved and adjusted at the right angle throughout the entire assembly process.

There are now 11 "ferris wheel" and half a dozen "lazy Susan" fixtures, all made in GD/Electronics fabrication, being used throughout assembly areas. More will be put into use as needed, said Patrick.



WHIRLIGIGS—Upper shot shows Helen Blair, GD/Electronics assembler, working on electronic units set up on new-type wheel fixture, expediting small assemblies. Lower photo, E. M. Starkweather, production engineer, watches Emily Tilton place components on printed circuit boards on "ferris wheel" fixture.

One Idea After Another Leads to Cut in Cost Of Pin From $2.71 to 20c

A chain of cost-saving ideas over the past 14 months has slashed the cost of a one-inch Atlas booster pin from $2.71 to about 20 cents at General Dynamics/Fort Worth.

Since about 18,000 of these small steel chrome-moly separation pins are used yearly, the annual savings would be about $45,000, estimates M. J. Scott, suggestions supervisor.

The pins are later linked with the Atlas second stage to keep the two sections from "slipping" while the big bird is in flight.

Of the original $2.71-per-unit cost, three cents went for material, 18 cents for manufacturing labor, and $2.50 for outside processing.

First in the series of cost-cutting ideas came in February, 1961, from three separate areas: Mrs. L. D. Murphy, Dept. 22-5; H. H. Langham Jr., then Dept. 41, and F. D. Foreman.

Their employee suggestions called for essentially the same steps: eliminate some of the expensive processing, such as treating with methyl ethyl ketone, duplicating measurements, and hand-polishing pins with gauze. Another marginal operation—wrapping pins individually—was discarded for quantity boxing.

These suggestions sharply reduced the cost of a single pin to 77 cents—55 cents of which was for processing. Ultimately, it will net the three employees nearly $3,800 in cash awards.

"Really excellent ideas," President Frank W. Davis told the ES winners at a special "Suggesters of the Month" award luncheon in the executive dining room.

"But," he confided to Scott in an aside, "55 cents still seems a pretty good price for treatment."

The observation sparked action in material departments and industrial engineering methods sections. After several value engineering-type conferences, processing was brought in-plant, reducing the cost to only 27 cents a pin.

In less than a year, a whopping 90 per cent cut in production costs. And there was more to come!

Last February, L. E. Bowlen, Dept. 30, pocketed a $208 check for an ES which cost only $7 to install and saved nearly $2,088.

Bowlen's idea was to resequence fabrication of the pins, cutting operations virtually in half.

Old methods required three operations on automatic screw machines, three on grinders and two on turret lathes. The new method cut this down to three operations on automatics and one on the grinder.

Result: cost of the pin was cut to slightly over 20 cents.

"We're proud of this thing," Scott said. "It shows you can very often make a sizable savings on even the smallest part. It also demonstrates that personnel at every level can work together—using our various cost-cutting vehicles—to make a product cheaper."

Aerospace Society To Hear Physicist On Optical LASER

General Dynamics members of San Diego chapter of the Aerospace Electrical Society will hear a talk on the basic physics underlying the optical LASER at tomorrow's (April 12) meeting.

Guests are invited to the 7:30 p.m. session in Balboa Park's Puppet Theater without admission charge.

Discussing the physics, performance, and potential of LASER (Light Amplification through Stimulated Emission of Radiation) will be Douglas A. Buddenhagen of the quantum physics department, Hughes Research Laboratories, Malibu, Calif.

An operating ruby LASER will be demonstrated. Performance characters of several different types and potential application of these new sources of coherent light in optical ranging, communications, medicine, metallurgy, will be given.

Information is available from E. F. Kotnik, GD/Convair, ext. 2724, Plant 1; or D. C. Ritchart, ext. 1818, Astro main plant.

Chemical Engineer's Article Published

E. C. Gear, senior chemical engineer, has qualified for a General Dynamics/Electronics writing award, announced William Lawrence, general manager at San Diego.

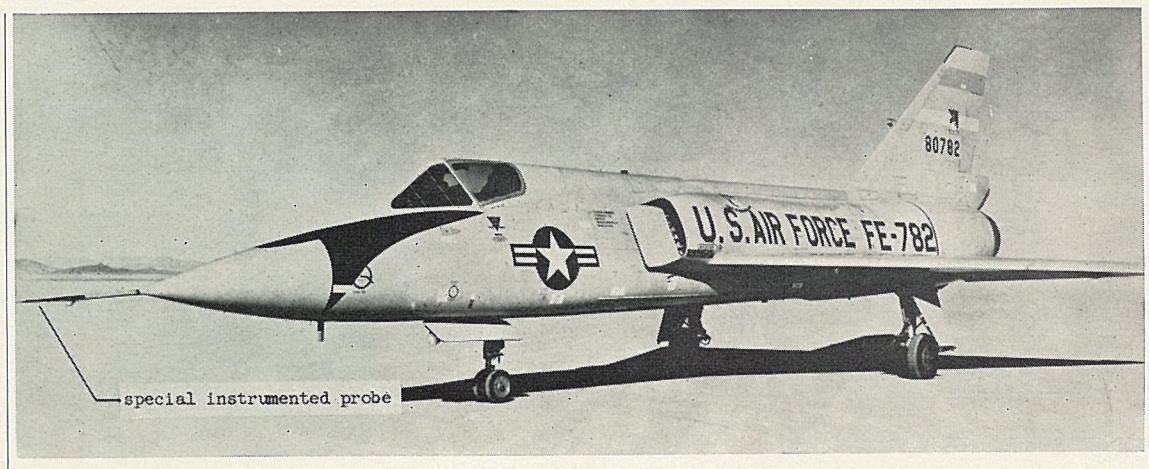
Gear's article, "Manufacturing Molded Electron Guns," which appeared in a recent issue of Electronics magazine, made him eligible for the $150 award.

He was project engineer for the two-year research and development program initiated by GD/Electronics and later sponsored by the U.S. Navy Bureau of Ships. The new manufacturing technique will make intricate cathode-ray tube electron guns more rugged than conventional assemblies now in use.

Training Committee Meets in New York

P. H. Selby of General Dynamics/Convair was in New York last week as delegate at the semi-annual session of the Society of Automotive Engineers' training committee.

Selby, flight training supervisor, represents the division on the committee, a section of the Society's aerospace council. Membership includes delegates from more than 40 companies, industries, airlines, and FAA throughout the country.



INSTRUMENTED—NASA photos show F-106 instrumented for sonic boom research in conjunction with B-58 Hustler. Tests were at 40,000 to 50,000 feet at Mach numbers from 1.5 to 1.7.

F-106, Hustler Team in Sonic Boom Research

A B-58 Hustler equipped with multiple weapons, and a F-106 specially instrumented to measure pressure while flying in the Hustler's flow field, assisted in recent sonic boom research at Edwards AFB.

Classified results of tests will be used to document lift and "volume components of the sonic boom pressure signatures for subsequent correlation with theory and with possible wind-tunnel and rocket-sled studies."

Air Force, National Aeronautics and Space Administration, and Federal Aviation Agency conducted the tests.

The F-106 was positioned so that penetration of the B-58 flow field was made from the rear at an incremental Mach number of about .25.

Data was obtained at distances from about 1,500 feet to 10,000 feet below the generating airplane and at about 1,500 feet above.

Penetration had to be made in the vicinity of Edwards bombing range, where optical tracking equipment was located. This fact—plus different operating characteristics of the two aircraft—required precise planning by the flight crews, engineers reported.

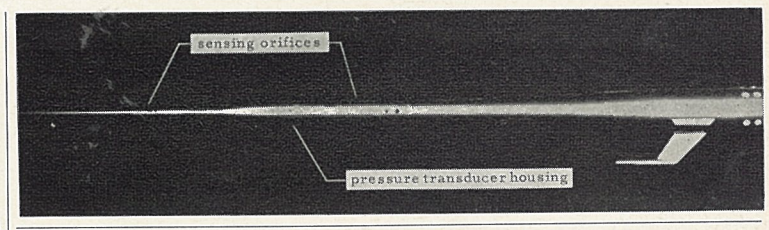
Tests were conducted at altitudes of 40,000 to 50,000 feet, at Mach numbers from 1.5 to about 1.7, and for a wide range of gross weights.

An attempt was made to study "as wide a range of lift coefficients as possible."

Special pressure measuring equipment of the F-106 was designed, fabricated and wind-tunnel tested at NASA Langley Research Center.

Transducers were housed in a special probe designed to fit onto the front of the standard Air Force nose boom of the F-106. Pressure information was recorded on a standard film-type flight recorder in the rocket bay of the F-106. These recordings were correlated with optical tracking information and appropriate atmospheric sounding information.

Meanwhile, sonic fatigue testing on a specially-built B-58 "wing" was under way at GD/FW jet engine test facility.



Programmed Instruction Now Available in Published Form

Programmed instruction is taking concrete form at General Dynamics/Convair with completion of seven projects, now in published form.

Concentrating on specific GD/Convair products, the training programs were selected as particularly applicable for use by either commercial or military customers.

All of the training instruction formulated by GD/Convair's expanding programming groups is adaptable to mechanical teaching devices, pointed out O. W. Harper, manager of customer service. GD/Convair has been developing its capability in the programming field since the first of the year.

Completed programs, ready for the market, are "Rocket Test Adapter," "Nuclear Safety," "Ejection Decision," "F-102 Arresting Hook," "880 Landing Gear," "'B' Seat Equipment," and "KIFIS—Instruction of Pilots on the Kollsman Integrated Flight Instrument System."

Potential customers, commercial and military, are being contacted in a survey of sales possibilities.

In a definement of assignment within the division's programming efforts, all projects pertaining to training of flight personnel, customer—both military and commercial, and GD/Convair, are handled by production flight. P. H. Selby, flight training supervisor, heads this section of programming.

Customer service, under Harper and Roy Sommers, chief of field service, is responsible for programming of maintenance training material.

Howard Kennedy, manager of technical publications, and his technical writing sections, program any project related to training aids and materials.

Programmed instruction for in-plant factory training will be done by educational services section under H. W. Rubottom, chief.

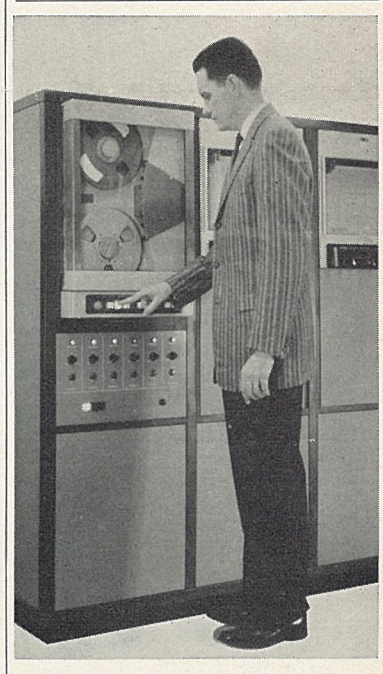
Now in the planning stage is a program for value control training.

Pet Dealer Gets Fox Captured in Convair

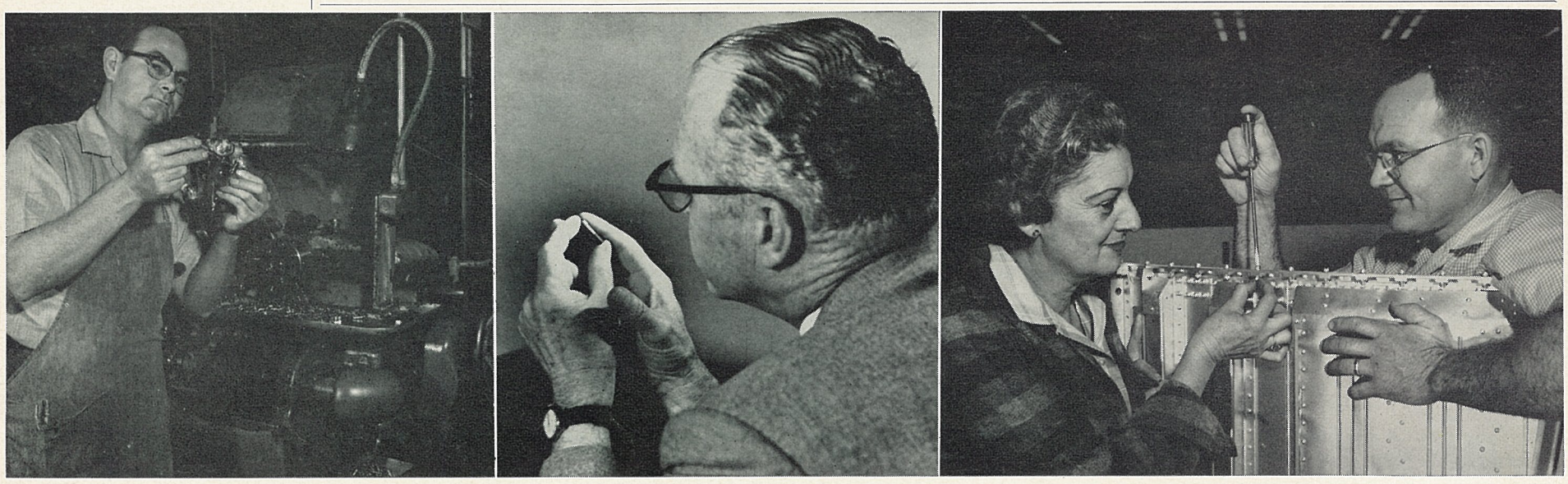
That wily fox (and, folks, it was a fox) captured a couple of weeks ago in GD/Convair's Bldg. 3 has found a home.

Raymond Lucero of Dept. 128, who trapped the young animal, has sold him to a Lemon Grove pet dealer who intends to train him.

The veterinarian who examined the critter identified him as a true fox—not the coyote some would have him!



ONE OF A KIND—Ed Matthews, GD/Electronics design draftsman, shown with new $75,000 plotting system designed and built by GD/Electronics at San Diego for Arnold Engineering Development Center, Tenn. System will read magnetic tapes generated by IBM 7070 computer.

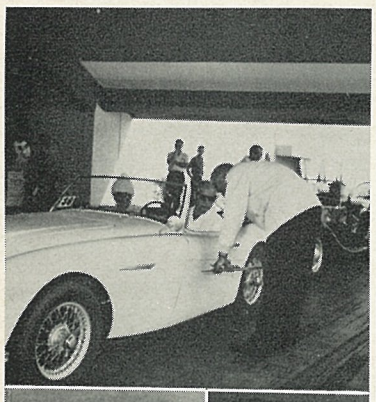


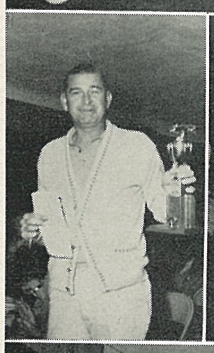
STORY OF A PIN—Thanks to series of ideas, cost of one-inch pin held by M. J. Scott, GD/FW suggestions supervisor, in center picture, was drastically reduced. At right are Mrs. L. D. Murphy, Dept. 22-5, and H. H. Langham Jr., Dept. 41, who started chain. At left is L. E. Bowlen, Dept. 30, whose idea reduced automatic screw machine operations from eight to four. Ideas turned in over 14 months cut pin cost from $2.71 to 20 cents.

'Seat of Pants' Rally Attracts 135 Sports Car Enthusiasts

A La Jolla couple guided their 1957 Porsche over 90 miles of winding back-country roads to come within a couple of minutes of perfect timing in Convair Sports Car Club's big "Seat of the Pants" rally March 25.

A perfect day for driving saw 135 sports cars leaving Mission Valley Bowlero to tackle the intricately-laid out course, said C. G. "Bud" Farnsworth, rallymaster. A hundred instructions had to be obeyed.













Reading from top down:

Bud Farnsworth, rallymaster, gives countdown to car No. 38 at Bowlero liftoff.

At right, Pete Aperlo, first in Convair class; (left) Art Andress, second placer.

Mrs. Farnsworth (right) presents trophies to Maryanna Kienholz and Jackie Schouten, third-place winners.

Vern Mathews, Convair club prexy, alerts check point of approaching cars.

CRA Commissioner Gerry Wright (right) mans check point near Alpine. Crew is wife, Grace (standing), Charles Moore and Mary Mathews.

It took almost four hours for each car to travel the route through El Cajon, Alpine to Viejas Indian Reservation, Descanso, back by Poker Flats, Singing Hills, Santee, to the finish point at Flying Hills Country Club. Last car reported in at 5:45 p.m.

"The rally was a huge success," said Farnsworth. "We were glad that so many drivers from other clubs took advantage of the event."

Of the 142 cars registering, 81 were in the overall class, 47 in the novice, and 14 in the Convair category. Astro Sports Car Club was represented by eight cars.

Frank and Phyllis Fraine, running for the La Jolla Sports Car Club in the overall class, recorded best time of the day—a phenomenal total error of 2 minutes, 16 seconds.

Pete and Alma Aperlo took first-place trophy in the Convair class. They brought their Peugeot 403 in with an error time of only 3 minutes, 27 seconds.

Second in the Convair group were Art and Margaret Andress, driving a Volkswagen, with a total error of 6 minutes, 45 seconds.

Jackie Schouten and Maryanna Kienholz, in a Corvair, placed third with 7 minutes and 6 seconds. Fourth place went to Ollie and Dorothy Tallerday, driving their MG-TD, with a total error of 9 minutes and 26 seconds.

Others placing in the Convair class were Ernest Toombs and Dara Alexander, fifth; Ray Crothers and Catherine Fisher, sixth; Buddy Farnsworth Jr. and Sue Collier, seventh; Wally and Marge Killeaney, eighth; Fred and Marjorie Porter, ninth; Foy and Roberta Slayton, tenth; Barry Hodgson and Randy Veal, eleventh; Bryce and Peggy Weaver, twelfth.

Skiers Slate May 5-6 Trip

Skiing enthusiasts, or those who just like to ski-watch, will have a last chance at the high peaks on the CRA-ARA spring trip to Mammoth Mountain May 5 and 6.

Reservations must be made before April 23, said Joe Harris, CRA commissioner.

Lodging accommodations are being reserved at Mammoth Mountain Inn. Rates range from $33 for non-skiers for transportation, two nights in the dormitory, two breakfasts, one dinner, to $41.75 for the same package deal plus rope tow and one or two ski lessons for skiers. Extra ski lessons are $3 each.

Extra charges are made for chalet rooms, from single to five persons.

Transportation will be by bus leaving the GD/Convair executive parking lot next to Bldg. 19 at 5:30 p.m., Friday (May 4). It will go on to Astro site to pick up Astro skiers at the parking lot west of Bldg. 1 at 6 p.m.

For those wishing to eat on the bus, a sandwich luncheon will be served for 85¢ or chicken dinner, $1.25.

A deposit of $10 must be made when signing for the trip before the April 23 deadline date. Balance is due when boarding the bus. No cancellations will be accepted after April 23.

Reservations may be made with Harris, home phone, AT-4-0278; Helen Navoy, CY-5-2489; Gene Rockafeller, Astro site, ext. 2868.

Reduction Offered On Padre Tickets

Exchange tickets for two Padre home games are available at GD / Convair employee services through arrangements with Industrial Recreation Council.

Tickets, when exchanged at the Westgate box office, allow a 75-cent reduction on admission to the Tuesday (April 24) or Tuesday (May 8) games.

Discount price will be: box seats, $1.25; general admission, 75c.

At least half a dozen special nights will be selected during the coming season for reduced rates to GD/Convair and GD/Electronics fans, said Pete Beyrer of CRA.

Roller Skate Night Scheduled Monday

Next free roller skating night for GD/Convair and GD/Electronics skaters will be Monday (April 16).

Tickets for the session at Skateland, Front and G Sts., may be picked up at employee services, Bldg. 32, Plant 1.



KICKOFF—Myles Castle (Dept. 160), IAM 1125 representative on GD/Convair Employees' Con-Trib-Club Committee, and Molly Dowell of employee services hear Rear Admiral C. C. Hartman, announce opening of American Cancer Society, SD County Branch, annual drive. Hartman, division chairman, accepted $5,000 from Con-Trib as first donation.

Plant Engineering Keglers Sink Fire Dept. Team, Refuse Rematch

A fierce feud is raging within the family as GD/Convair's fire department bowling team fights to uphold its boast as "unbeatable."

Following a hot exchange of insulting memos and cartoons, referring to each other's "obesity," "bragging," "bellyaching," plant engineering sunk the challenging firemen in a recent tie play-off.

The blaze chasers previously had won three out of four games to defeat transportation in their first inter-departmental battle.

They then tackled plant engineering's "Insignificant Nobodies" at the Bowlero March 11, losing face in the roll-off by six pins.

However, Leo Slosser of "Del's Demons," was high individual scorer with 544; Curly Rigney of the "Nobodies," was high for that team with 512.

Now, things stand at a stalemate until the firemen prove themselves again, say plant engineers, who refuse a rematch. Fire "Demons" have challenged safety department, frantically brushing up on pin-rolling for the contest.

Winner of the rematch with plant engineering will be required to play transportation.

The "Demons" say they will gladly take on any 850 team in any department to establish the world's champ kegling outfit.

GENERAL ATOMIC'S DEXTER WINNER IN MODELERS CONTEST

Sunny skies and balmy, calm "air" made a perfect day for launching models in the AMA sanctioned Tri-Club Free Flight Meet March 25 at Hourglass Field.

Fifty-two modelers from San Diego and Los Angeles competed in the meet, sponsored by GD/Convair Aeromodelers, GD/Astro Astromodelers, and San Diego Orbiteers.

Three General Dynamics contestants placed among the top contestants. Rolland Dexter of General Atomic, contest director, took first place trophy and merchandise prize in rubber motor powered class with a time of 14 min., 52 sec. Jack Finn of GD/Electronics was third with time of 12 min., 58 sec., in ½A gas event. R. Hood of GD/Astro placed fifth in the popular Nordic towline glider event.

Merchandise awards, including such items as engines, mechanical timers, and balsa wood packages went to first, second, and third winners, together with trophies to firsts and ribbons to second through fifth.

CRA club members assisting Dexter with timing chores included Nat Antonioli and Don Larsen, Aeromodelers president.

Flying sessions for CRA and ARA modelers are held each weekend, Saturday and Sunday mornings from 7 a.m. until noon, at the Clairemont Mesa flying site.

Volleyballers Begin Action

GD/Convair and Astro volleyball teams went into action last week in the current IRC volleyball tournament.

First games in the Wednesday League were April 4; Friday League, April 6.

Tonight (April 11) Convair Engineers will meet the Hounds (Astro) and two other Astro teams, Astronets and Reliables, will battle at 7 p.m. in Balboa Park's Muni Gym. At 8 p.m. Support Documentation (Astro) will play City Engineers.

In the Friday League (April 13), Convair Spacemen will meet Project Support (Astro) and Park and Recreation will play Design (Astro) at 7:30 p.m., Muni Gym.

GD/E Shooter Nabs Trophy

A General Dynamics/Electronics man was the only General Dynamics contestant to bring down a prize with his sharp-shooting in the March 25 open trapshoot at Gillespie Field Range.

Howard Jacklin of GD/Electronics won the shoot-off breaking the tie for the Class B 16-yd. event. He and his opponent, E. L. Mabie of Evanston, Ill., had both shot 97 out of 100 targets.

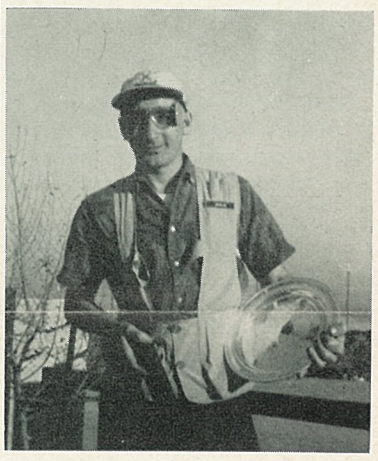
Jacklin also placed second in the long yardage (23-26) event with an 86.

S. L. Cushman of GD/Convair took second in the 18-22 yardage event with a 93 but lost out on the pieces of silver given only to first placers.

Everett Kimball of San Diego banged out a perfect 100 in Class A, 16-yd. event, to take home the $100 cash prize given by CRA for the feat.

Nearly 80 shooters competed in the registered Amateur Trapshooting Association event, sponsored by Convair CRA Gun Club. They came from as far away as Los Angeles and Imperial Valley, and all points in between, said Jack Swank, CRA commissioner. The Mabies, visiting in Los Angeles from Evanston, heard of the shoot and traveled to San Diego to take part.

Swank said that 30,000 targets were thrown out during the day with 10 silver service pieces going to winners.



TOP GUN — Howard Jacklin holds silver tray, prize for topping Class B event at recent trapshoot.

Parade Trophy Goes To SD Color Guard

Another trophy was added to the collection of CRA Riding Club's mounted Color Guard for their performance in the March 31 parade commemorating El Cajon's 50th anniversary.

Riding Club members turned out in full force that evening for their family night party at Gillespie Field Clubhouse. Special performers included Stu Cooper, well-known trumpeter, and the 12-year-old son of Mary Kelly, GD/Convair Plant 2, who sang several numbers.

Plans are being made for a weekend outing of the riding group to Los Caballos horse camp some time next month.





SOARING MEET—At right, modelers from ARA and CRA clubs gather at registration booth to check in planes before Tri-Club Free Flight Meet at Hourglass Field. At left, Jack Finn of GD/Electronics, who placed third in ½A gas event, launches free flight model.—Photos by ARA Commissioner Chuck Ogle.



"INITIATION"—Square Dancers from GD/Convair, GD/Pomona and GD/Astro had housewarming March 31 at new Astro Clubhouse. In top left are Mr. and Mrs. Maury Scholz of Convair, Mr. and Mrs. Marty Stutz of Astro and Mr. and Mrs. Lloyd Scarborough of Pomona. At top right is head table at dinner that preceded dancing. Recreation presidents from all three divisions were present. Lower photo, center, shows overflow dancers in lobby.

Big Leaguer

GD/Convair Son Boston Rookie

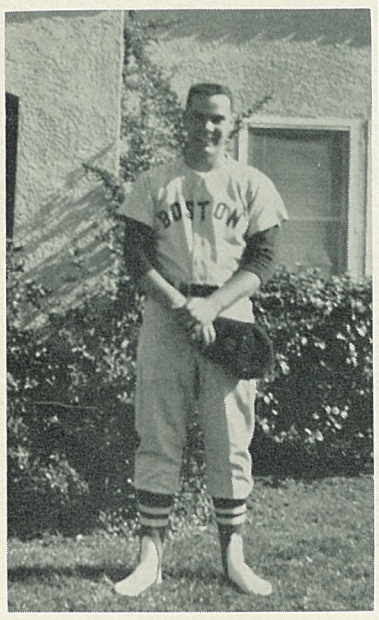
A GD/Convair son, being groomed as a future Red Sox major league player, is described in a recent Boston Globe sports article as "looking, swinging like another Roger Maris."

Joe Verdon, son of R. W. Verdon, assistant foreman in tool manufacturing, was signed last spring by the Red Sox on the strength of his record at Hoover High School (**General Dynamics NEWS**, July 5, 1961).

He joins two other Hoover High alumni who have made good with the Red Sox — Ted Williams and Ray Boone.

Boone, Red Sox scout who signed Verdon, was quoted as saying, "I saw this kid outfielder and right away he reminded me of somebody in the big leagues. It was Roger Maris. The boy has a nice easy swing like Roger and he hits with power. He runs well and throws well, too."

Joe is now in spring training at Ocala, Fla. He spent two months last summer with the Olean, N. Y., team in the Pony League. In 80 games he hit around .280, had 17 home runs, and batted in 48 runs.



SECOND MARIS? — Joe Verdon, GD/Convair son in training with Red Sox, "looks, swings like Roger Maris!"

Radio Club Will Make Plans For Field Day

CRA Radio Club members will meet tomorrow night (April 12) to begin laying plans for the annual Field Day slated for June, said James Lack, commissioner.

Session will be at regular time, 8 p.m., in the Harbor Drive headquarters.

Sports & Recreation

Three Divisions Send Dancers to Jamboree

In a rollicking fun-fest, square dancers from GD/Convair, Pomona and Astronautics helped "initiate" the new ARA Clubhouse at Astro with a General Dynamics Jamboree recently.

Held March 31, the affair drew 450-plus dancers during the evening. It was the first "official" function held in the recently-completed center section of the clubhouse.

Each of the three General Dynamics divisions was represented by about 80 dancers, with guests from other clubs rounding out the number. Guest callers took the floor from time to time to keep the square rolling.

One popular number was a "square dance twist."

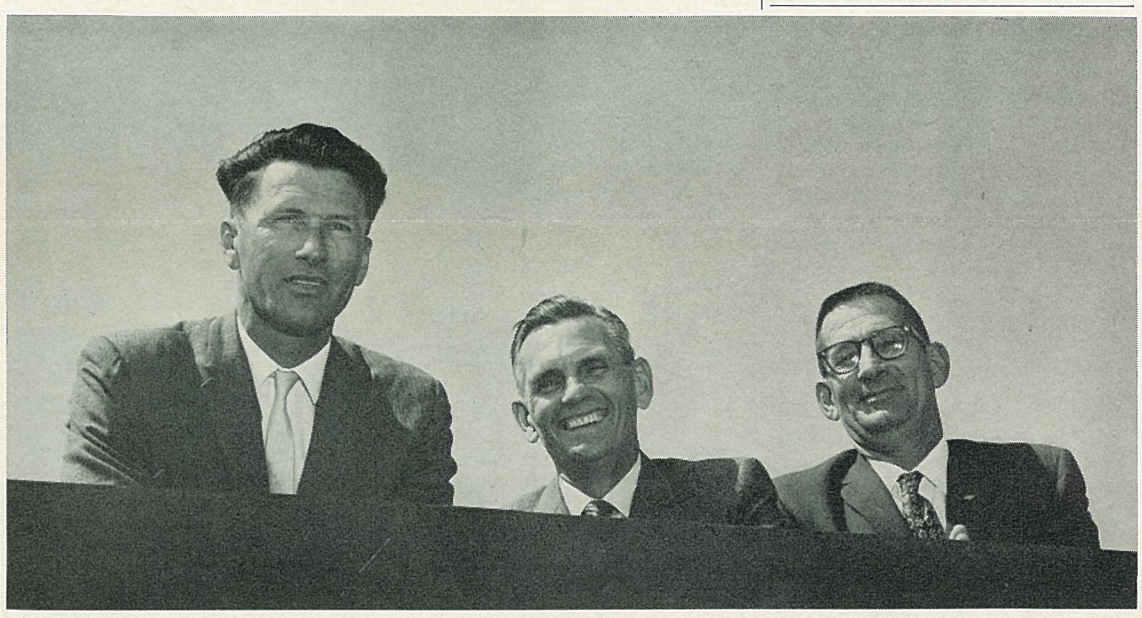
Pomona PRA Commissioner Lloyd Scarborough and his group arrived via two chartered buses. They were greeted by CRA Hoedowner Commissioner Maury Scholz and ARA Astro Nauts Commissioner Marty Stutz.

The Astro Nauts were hosts at a pre-dance dinner.

Special guests included the chiefs of employee services, incoming and out-going officers of the three recreation associations involved. Brief speeches were made by some of those taking part.

The Astro-sponsored event was one of two held each year which bring square dancers together. A return visit with Pomona is now tentatively set for fall.

Nearly 100 Hoedowners from the CRA square dancing group took part in the Jamboree. Special guests representing GD/Convair, besides Commissioner and Mrs. Scholz, were Mr. and Mrs. J. K. Field, Mr. and Mrs. Jack Swank, and Mr. and Mrs. Pete Beyrer.



UP AND OVER—New CRA Council officers (from left) Joe Harris, president; Gerry Wright, vice president, Pete Beyrer, treasurer, look ready for action as they take helm of GD/Convair recreation activities. Installation is April 14.

Ron Ainsworth Print Winner In City Contest

"Little Joan," prize print of Ron Ainsworth, CRA Camera Club member, has won the award for the best black and white print of the year in an annual city-wide contest.

This is the second year in a row that Ainsworth's work has been named best in the city.

The CRA club's slide entry of Leo Vigneault came in second for "Slide of the Year" honors.

In other outside competition, Mrs. Ainsworth took two honorable mentions, one for black and white and one for color slide, in the Dr. Scott Watson Memorial Salon.

Four members of the CRA Camera Club entered 23 pieces and had 16 pictures accepted for exhibition. Besides the Ainsworths, Allen Henry and Howard Harvey exhibited.

Black and white prints from the Salon contest will be on exhibit throughout April at the Photo Arts Bldg. in Balboa Park, open Sundays from 1 to 5 p.m. Ainsworth's "Little Joan" is also displayed there.

Next CRA club quarterly contest is set for April 23, 7:30 p.m., Photo Arts Bldg.

More Than 250 Bowlers Compete This Month in 21st Annual Meet

At least 250 GD/Convair bowlers, making up in the neighborhood of 50 teams, will take part in the 21st annual CRA championship bowling tournament, said Jim Hayman, commissioner.

Tourney rolling will be at Pacific Recreation the weekends of April 21-22, 28-29.

"If you failed to enter the tourney, come on down anyway and watch your friends in action," urged Hayman.

As winter leagues phase out this month, new leagues are being formed for summer bowling.

Following mixed leagues are now open:

Tuesday, University Lanes. Call H. Skilton, ext. 2461, Plant 1.

Wednesday, Pacific Recreation. Call Hayman, ext. 1155 or 2225, Plant 1.

Thursday, Frontier Lanes. Call Hayman.

Thursday, 815 mixed scratch, Tower Bowl. Call Mike Brooks, home phone, HO-9-8793.

Thursday, Victory Lanes. Call Frank Colianna, ext. 2424, Plant 1.

Friday, Tower Bowl. Call Brooks.

Swing Shift. Call Brooks.

Rockhounds of CRA Will Go to Boron

Desert flora and fauna will greet CRA Rockhounds on their once-a-year field trip to the Boron area this weekend.

The outing will coincide with the annual Boron rock show this Saturday and Sunday (April 14-15). Guided field trips to the Castle Butte area and the Borax mine will lead the Rockhounds to petrified palm, bloodstone, and borate minerals.

Members are directed to take Hwy. 466 to the Clay Mine Road, 10 miles west of Boron, which will be marked by CRA signs and streamers. Maps and other information is available from Dan Whorton, CRA commissioner, home phone, CO-2-7047.

Athletes Entering Junior Olympics

Amateur athletes at GD/Convair may enter the coming A.A.U. Junior Olympic Track and Field meet, set for the first two Saturdays in May at Helix Stadium, La Mesa.

Entries close April 27 at 5 p.m. at the La Mesa Recreation Dept. Blanks may be picked up at employee services, Bldg. 32, Plant 1.

Sq. Dancers Complete Beginners' Course

Games, get-acquainted dances and guest callers combined to provide a lively graduation celebration for CRA square dancers finishing their beginners' course.

The six squares of graduates were joined by another half dozen squares of Hoedowners and visitors from other San Diego clubs at the March 29 party in American Legion Hall.

Don Browne, Hoedowners' caller, was assisted by guest callers, Tom Montague of the Heartland Callers Association, Johnny Smith, Diamond Horseshoes, Ken Reed, Heartland and San Diego Square Dance Associations.

Intermediate and advanced sessions will continue Tuesday evenings in the American Legion Hall, 4061 Fairmount Ave., reminded CRA Commissioner Maury Scholz.

Pomona Ups Audio-Visual Job Stations

Audio-visual production of electronic missile components is in full swing at General Dynamics/Pomona.

Introduced on a limited scale last year, audio-visual has been so successful that some 29 A-V work stations have been activated and are now in use in the electronic assembly department.

"In general, almost everyone connected with the audio-visual stations is pleased with the results," R. G. Bradley, foreman of electronic board sub and package assembly, said. "Use of the system has resulted in more uniformly-built components, a somewhat higher production rate, and a reduction in assembly errors.

"The latter factor is, in my opinion, the most important. Rework caused by faulty workmanship has already been reduced drastically on components assembled at the A-V work stations, and it should be reduced even more as we become more accustomed to the system," he added.

"I believe that audio-visual is definitely here to stay, and that it will be much more widely used throughout industry in the very near future," Bradley said.

Heart of the audio-visual work station is the A-V unit—a combination recorded tape playback unit and color photographic slide projector. The tape gives a step-by-step narrative of the assembly procedure, while a series of slides, coordinated with the tape, shows each step visually.

Tapes and slides for each assembly procedure are prepared by the tool engineering department (Dept. 24), with the assistance of the applied manufacturing research and process development department (Dept. 21). Although the time sequence is carefully controlled during the preparation of each set of aids, each operator can start and stop the A-V machine at any time, thereby setting her own pace. This also prevents arbitrary speedups.

Equally as important as the A-V device itself is the arrangement of the work station. The chassis of the part to be assembled is held in an adjustable holder which can be positioned by the operator at the most comfortable working angle and distance.

Small electronic components, such as resistors and capacitors, are kept in conveniently arranged and labeled bins. Tools, solder and other assembly necessities are also conveniently located.



WATCHING "TV"—Charlotte Hall, GD/FW Dept. 73, assembles chaff-dispenser electronic unit, following verbal and visual instructions offered by self-contained machine. Technique sharply reduced assembly time.

FW Tries Audio-Visual Technique in Assemblies

Some General Dynamics/Fort Worth employees soon may be following a "television script" rather than a blueprint in assembling certain aircraft parts.

The reason is an audio-visual machine, not much bigger than a portable typewriter, which has been used in Dept. 73 to cut assembly time of a chaff dispenser counter control unit by more than a third.

Audio-visual technique is one of several being considered by Dept. 23 (manufacturing research and engineering) as a means of furthering manufacturing state of the art.

The self-contained apparatus includes a one-quarter-inch magnetic tape playback deck, a unit housing 32 slides, 35mm, and an 8½ x 12 inch television screen.

The audio, or narrative unit, gives sequenced, step-by-step details of how to assemble the part. Color slides are synchronized with the vocal presentation.

"The machine is showing great potential for assembly of a complex apparatus like the chaff dispenser unit, which contains 450 wires, 75 terminals, and 15 relays," said R. K. Vance, Dept. 24-1 tool engineer.

"Another advantage of audio-visual is that it encourages uniformity," said Clarence Raub, Dept. 24-3 GSE design engineer.

"Much of the 'human' error in interpreting blueprints, process standards, technical orders, and other instructions will be eliminated, since the tape instructions and picture slides will be identical for everyone.

"Since the operator takes 'silent' instruction through earphones, he is usually able to concentrate fully on his immediate chore, almost completely oblivious to others around him."

To make the working environment even more pleasant, in some cases, soft background music is piped in "between" instructions.

"In most cases, it's much quicker for the employee to make an entire unit, taking detailed instructions from beginning to end," Raub said.

Other applications to date include: repair of alignment controller on navigation system in Dept. 75; calibration of a signal generator in Dept. 83; and projects in the planning stage.

"Although the audio-visual method is most commonly used for detailed assembly and subsystem work, other methods of improved work instruction are also being evaluated," Raub said.

This includes detailed written instruction; visual aids such as charts, sketches, and others; and tape playback.

GD/Fort Worth talent was used in compiling the first audio-visual presentation. Gordon Smith, engineering writer and television news commentator, did narration, Earl Campbell, technical writer, helped prepare scripts, and Aaron Murray provided photography.

Others involved in various departments include: Phil Green, nuclear physics engineer; Lee Lang, MTU; Dan Rhodes, engineering GSE design, and C. A. Bay, Dept. 23, who is spearheading the experimental projects at GD/Fort Worth.

Performance to date indicates a "strong potential" for use of audio-visual techniques.

A guidance committee composed of representatives from the major potential users in-plant is looking further into its potentialities.

Trainers 'Launch' Atlas in Practice

Several times daily at Vandenberg AFB, Calif., seven days each week, Air Force Strategic Air Command crews here man their stations and "launch" an Atlas ICBM.

Then they call it back and start over again!

The ultimate in realistic training, these "launches" are simulated on trainers so complete they include even closed-circuit "television" views of the proceedings.

General Dynamics/Astronautics trainer design (Dept. 321-5) has built three of the Atlas "F" series Crew Procedures Trainers (T-601).

Last week, newsmen were given a look at these trainers during ceremonies marking activation of the newly completed building which houses them.

GD/Astro officials present included E. A. Reynolds, director of product support; K. E. Newton, operations manager, and R. D. Bergen, chief of product support at Vandenberg AFB.

Also attending were representatives of Strategic Air Command Headquarters, Ballistic Systems Division, First Strategic Aerospace Division, and 576th Strategic Missile Squadron.

Each trainer consists of several units (including a remote instructor's console) occupying about 10,000 cubic ft., which simulate exactly all electronic equipment cabinets, controls and instruments operated by the crew of an "F" series Atlas underground silo site.

Each T-601 permits a crew to drill repeatedly on all procedures required to launch a missile, while their actions and reactions are monitored by an unseen instructor.

"This trainer provides the most complete procedure practice available to operational missile crews," Bergen said. "Training with a real missile must always stop short of a complete launch, and even these checkouts must be limited because they reduce the life expectancy of missile components."

With a real missile, the crew's only trouble-shooting practice comes if something actually goes wrong, while with T-601 the instructor can test his students by inserting more than 230 different technical problems.

He throws problems at the crew unexpectedly, adding to realism by flashing one of 35 color slides on a device simulating the silo's closed-circuit television system.

At GD/Astro's Plant 2 facilities (San Diego), T-601 development was spearheaded by Vern Boyer, project engineer, and Joe Fenier, principal engineer, with Lee Lisak, Don Lemon, Frank Herron, Sam Kallaos, Hal Sander and Mel Nunn. Wes Magnuson is general supervisor, and Mel Hart, supervisor.

Working closely with trainer design personnel were Maj. A. R. Kilpatrick, BSD training equipment project officer; and Capts. Al Blair and Irving Baum, SAC project and training officers, respectively, at Vandenberg AFB.

The three trainers were designed, fabricated and delivered to the 576th Strategic Missile Squadron in only 13 months, and since their arrival have been in operation constantly.

All parts of each trainer are either operational panels, or exact replicas, although T-601 simulates all functions of the launch equipment — including hydraulic and pneumatic systems—electrically. Each T-601 includes 950 light indicators, 170 gauges and meters, 1,012 switches, dials and valves, and 75 miles of wiring.



SUPER-TRAINER—With E. A. Reynolds, GD/Astro director of product support at launch control officer's console, Maj. A. R. Kilpatrick, BSD, and Capt. Irving Baum, SAC, discuss new T-601 crew procedures trainer.

Charactron Tube Production Moved to New San Diego Lab

General Dynamics/Electronics has occupied new production laboratories for its CHARACTRON Shaped Beam Tubes and reduced prices as a result of increased efficiency.

Tube production has been moved to a compact laboratory at 1895 Hancock Street, San Diego, where improved material handling techniques are being employed to speed manufacturing. A new clean room has been built, and the plant is air conditioned for environmental control.

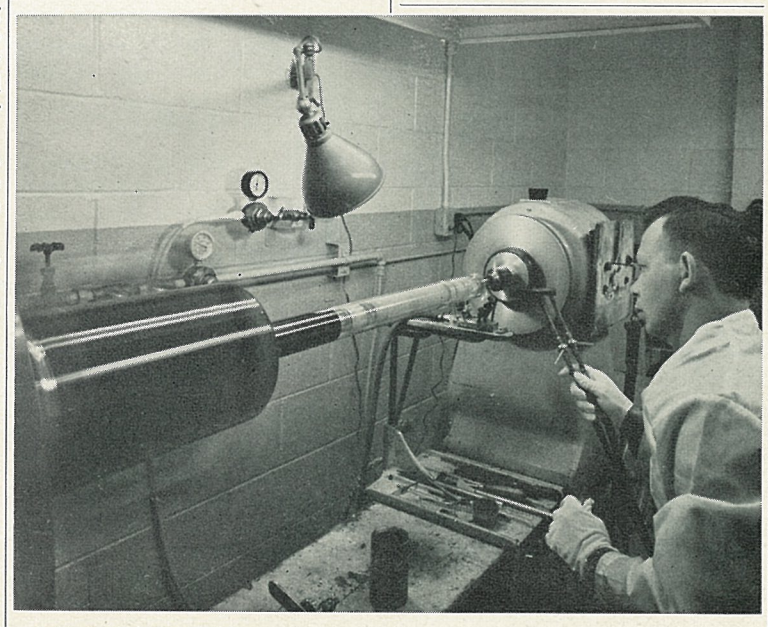
Modern high speed vacuum pumps are being employed in tube manufacture. Improved traps are resulting in increased yield.

Other steps taken to permit price reductions include stabilizing the types of production tubes in the line.

Nine standard tubes in the General Dynamics line have been reduced in price including seven preferred types. Custom designed tubes are also available at lower prices as a result of the new production techniques.

The price reductions apply to the entire line of tubes and components. An example of the reduction is the 45 per cent cut in the 5-inch tube now priced at less than $1,000 in single units and $500 in lots of 50 or more.

Special features of the CHARACTRON® Shaped Beam Tubes are high resolution and less maintenance. A minimum of supporting circuitry is required, which makes the tubes more economical to install and more reliable. Many of the tubes are still in service on the SAGE system after more than 20,000 hours of life.



TUBE PRODUCTION—J. S. Holt, GD/Electronics cathode-ray tube technician seals glass tube at lathe in new GD/Electronics tube production laboratories at San Diego.

GD/Electronics Engineer Visits Antarctica on Reactor Check

Midnight is a fine time for taking color movies—in Antarctica, that is.

At other times the mid-summer sunlight was so intense that it was difficult to avoid overexposing film, relates Roger N. Blunt, section head in GD/Electronics' Data Acquisition and Reactor Controls Laboratory at Rochester, N. Y., who just returned from there.

Blunt spent slightly more than a month at McMurdo Sound, big U. S. base at the edge of the Antarctic continent, flying in on Jan. 29, and coming out March 4 on the last ship to leave McMurdo before winter closed in.

His assignment in Antarctica was to check out the instrumentation and control systems which were built at Electronics for the nuclear reactor installed there during the southern summer just past. He was there when the reactor "went critical" March 4, made sure the electronic equipment was working properly, and then was ferried out to the U. S. Coast Guard Cutter "East Wind."

The 2,450-mile voyage back to Christchurch, New Zealand—which was only a 10-hour flight on the way down—took seven days.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 9 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, April 25, 1962



LINE FORMS—Curious spectators, anxious to have a look at Convair 990, latest model jetliner, started gathering well before opening time at Miramar NAS open house April 8. Over 8,000 filed through Convair jet transport during day.

990 Astrojet Routes Expand To New Cities

Cincinnati and Newark will be added to the list of cities served by American Airlines new Convair 990 Astrojets this coming Sunday (April 29).

The nation's newest airliner will fly three round trips each day between Cincinnati and New York International Airport and one round trip between Newark and Detroit.

American already flies the 990 on New York to Chicago, Detroit, St. Louis, and Dallas routes. New York-Dallas and Dallas-Chicago 990 service began April 15.

Inauguration of the New York-Cincinnati 990 flights will provide the route with all-Astrojet service. The new schedule (coinciding with changeover to Daylight Saving Time throughout most of the country) will provide 990 Astrojet departures from New York for Cincinnati at 8:55 a.m., noon, and 5 p.m., and from Cincinnati for New York at 9:35 a.m., 11 a.m., and 2 p.m.

With the beginning of 990 Astrojet service from Newark to Detroit, American will be providing 8½ round trips daily between the New York City airports and Detroit.

★ ★ ★

It took just 11 hours and 40 minutes of flying time for Swissair's latest Coronado 990 to wing its way from San Diego to Zurich.

The SAS-marked craft left General Dynamics/Convair flight line April 11 at 9:33 a.m. Four hours, 22 minutes, later it landed at Idlewild airport, New York City. It reached Zurich at 9:42 a.m. (Swiss time) on April 12.

Airplane 'No Shows' To Incur Penalties

General Dynamics/Convair travelers were warned this week of penalties which will go into effect May 1 for failure to "show" for airline reservations.

Minimum penalty is $5, maximum is $40.

GD/Convair employees on company business were cautioned to cancel their reservations well in advance, if they do not intend to use them, and require written confirmation, if the cancellation is made by telephone. Otherwise, they will be held personally responsible.

Fink, Williamson Vie For Club Presidency

Campaign speeches by presidential candidates kicked off the annual political race for General Dynamics/Convair Management Club nominees at the April 18 meeting.

Two GD/Convair veterans, both with more than 25 years in the company, E. R. "Al" Fink and J. L. "Joe" Williamson, made their pitches for top spot.

Wayne Zook, nominating committee chairman, announced a slate of 29 nominees selected for club offices and board of control posts at the 20th anniversary meet in Catamaran Hotel. Nominations were approved unanimously.

Ballots are going out this week to all members. They must be marked and returned to Zook by May 9. Election results will be read at the May 16 meeting.

Fink, foreman in plant engineering, joined GD/Convair in 1935 as pipe fitter in maintenance. He has held supervisory posts in plant engineering for many years. Active in Management Club work, he has headed such important committees as Junior Achievement, Air Explorer Scouts, Christmas dance, and was first vice president during the current term.

Williamson is foreman in tool manufacturing. Since coming to GD/Convair in 1936 he has also worked up through the ranks to managerial positions in tooling, jigs and fixtures, as well as tool manufacturing.

He has served on many club committees. Civic activities include work with United Fund and Boys' Town, president of Dynamics Toastmasters, and president of CRA Pistol Club.

Other nominees are:

First vice president—P. A. Hamm (Dept. 29-4); W. J. Wood (Dept. 6-04).

Second vice president—D. R. Bryson (Dept. 140); R. M. Montgomery (Dept. 21-1).

Recording secretary—Harry Lund (Dept. 23-3); A. M. Van Horne (Dept. 400-4).

Financial secretary—Joe Freeman (Dept. 45-0); V. A. Petricola (Dept. 23-3).

Treasurer—R. G. Macomber (Dept. 91-1); M. L. Sweeney (Dept. 45-0).

One-year board members (four to be elected)—L. C. Beckett (Dept. 22); J. R. Benedict (Dept. 140); A. R. Brunner (Dept. 45-0); R. W. Chambers (Dept. 192-5); C. M. Durst (Dept. 3-1); J. W. Hoerger (Dept. 292-1); K. S. Kelly (Dept. 292-1); G. E. Nuss (Dept. 400-1); J. J. Jodka (Dept. 91-1); W. S. Nader (Dept. 22-0); L. C. Stuckey (Dept. 48-09).

Two-year board member (one to be elected)—G. O. Couchman (Dept. 100); R. A. Davis (Dept. 223); B. W. Rimbach (Dept. 43-6).

Three-year board member (one to be elected)—J. A. Campbell (Dept. 6-04); D. L. Macey (Dept. 45-0); B. T. McMicken (Dept. 133).

GD/Electronics Son, Daughter Win $1,000 Club Scholarships

A General Dynamics/Electronics son and daughter took top honors in the current GD/Convair Management Club scholarship contest.

Christina Klumph, 15, daughter of G. B. Klumph, GD/E Dept. 5, and Van Kemper, 16, son of Ivan L. Kemper, GD/E Dept. 3, won the two $1,000 scholarships to further their education.

The two, both straight A students, were chosen from the six finalists who reached final judging two weeks ago.

Runners-up were Susan Ward, daughter of P. L. Ward, GD/Convair Dept. 17; Stephen Pazan, son of Edward C. Pazan, GD/Convair Dept. 48; Walter Smith, son of H. R. Smith, GD/Convair Dept. 15-6; Carol Ann Russell, daughter of Robert E. Russell, GD/E Dept. 3.

They each have received $100 U.S. Savings Bonds.

Both of the top winners have not only had outstanding scholastic records throughout their high school careers, but have been active in numerous activities.

Christina, who will be graduated from Kearny High School this June, has been in the school orchestra and band, and has taught piano the last three years. She is a member of Dianas, out-

(Continued on Page 2)

Project Manager Named by Neale

J. B. Hurt has been named project manager for the Little Joe II program at General Dynamics/Convair, announced R. A. Neale, vice president and general manager of the division.

Hurt, former senior group engineer in propulsion, will serve as the focal point for all managerial aspects of the program on which GD/Convair is bidding.

Martin Receives President Award, Top Cost Honors

A General Dynamics/Convair assistant foreman, who qualified on his last CIP just before end of the year, has received the division's top cost reduction honor, the President's Award for 1961.

Willard Martin of Dept. 31 accepted the traditional plaque, framed certificate and a $250 gift certificate for home workshop equipment from President J. H. Famme before a crowd of several hundred GD/Convair Management Club members and their ladies at Catamaran Hotel April 18.

Famme praised Martin for his constant efforts to improve working methods throughout the year.

During 1961 he had ten CIPs installed. They ranged in dollar savings from $78 to $2,419 until his last suggestion brought his grand total to $30,056.

"It is not only dollar value of the savings that decides the winner," said Famme. "Other factors such as originality, ingenuity, completeness, and participation are weighed. It was in these areas that our winner excelled."

Martin's final CIP offered a better way to rebalance ailerons on the Convair 990. Instead of taking them off the craft for rework and rebalance, he recommended that one set of ailerons be used as the standard for correct balance. The new balance would compensate for removal of the damper. Rebalancing of the ailerons could then be done on the planes, saving $23,093 and 7,833 manhours.

Martin joined GD/Convair in 1941 as a riveter helper. He worked up through the ranks to his present position of assistant foreman in experimental. He has spent the last 10 years in line supervisory positions.

"I have always felt that the President's Award is the most important one presented in the division," said Famme. "It is revealing to look at the records of the 18 persons who qualified for it during the last year. They have practiced cost reduction—not preached it!"

All 18 qualifiers received commendation certificates.



IDEA MAN—Willard Martin (Dept. 31), left, happily accepts 1961 President's Award honors from GD/Convair President J. H. Famme for cost-cutting efforts during past year.

MacSave-it Awards Go To Two Buyers at SD

Two buyers in material procurement at GD/Convair have been tabbed top contributors to the division's cost-cutting program for the last two months.

Together, their Cost Improvement Proposals will save GD/Convair $50,000. They won MacSave-it awards at the GD/Convair Management Club meeting last week.

Nick Kosmas, senior buyer in Dept. 34, was selected as February MacSave-it winner for a suggestion that GD/Convair take over a task formerly sent to vendors. His CIP showed that a required engineering change could be accomplished by modification to pointer and red radial line on jet transport airspeed

(Continued on Page 2)

Disability Payment System Changed; Employees' Benefits Remain Same

After May 1, weekly disability payments to employees absent for illness or injury will be paid through the California State Disability Office, rather than Aetna Life Insurance Co., as in the past.

Total benefits to the individual will remain the same.

Affected are all General Dynamics personnel based in California. Personnel of California divisions based out-of-state (such as Holloman AFB, N.M., and Astro bases in other states) continue under the old system.

The move is being taken to avoid premium increases, which recent changes in state regulations would have made necessary under the former plan.

Difference to the employee is largely a matter of procedure. Group insurance claims must be made out as formerly, verified by a medical doctor, and returned. Now, in addition, State Disability forms must also be made out, verified medically and submitted to the local State Disability Office.

State forms may be obtained from employee services (or the local State Disability Office). Forms will be mailed to the home upon telephone request to employee services.

Log Book Entries



Wearing new 25-year service emblems at GD/Convair this month are, from left, Charles Wallman, Dept. 48; C. D. Saxon, Dept. 25; Michael Alianelli, Dept. 129.

Service Emblems

CONVAIR

Service emblems due during the period April 16 through April 30.

Thirty-five-year: Dept. 400-0, H. W. Meyers.

Twenty-year: Dept. 3-1, F. W. Green; Dept. 6, Lawrence Bordelon, C. C. Harness Jr., Hellen C. Kline, R. C. Lingley, Hazel A. Stone; Dept. 16-1, Ora D. Stroburg; Dept. 25-1, L. N. Henry, Alfonzo Sanchez; Dept. 31, R. L. Bevard, G. W. Koskela, R. C. Wing; Dept. 44-5, Delois E. Griffin; Dept. 171, L. W. Jackson, Ruby Williams; Dept. 400-7, H. N. Atkins; Dept. 401-5, J. H. Elms, K. L. Shaffer.

Fifteen-year: Dept. 6, K. B. Barry, Dorothy M. Hunt, G. B. Nicoloff; Dept. 14-7, Lester Durck; Dept. 48, W. E. Blake, Marie S. Trent, L. E. West; Dept. 101, A. E. Bougher; Dept. 133, M. C. Harper; Dept. 140, John Velazquez; Dept. 146, M. L. Garcia; Dept. 148, J. L. Montette; Dept. 160, J. R. Holmes, H. F. Meyers; Dept. 171, Ralph Garcia; Dept. 180, J. D. Godwin-Austen; Dept. 218, Dolores S. Rice; Dept. 292, J. M. Rivera.

Ten-year: Dept. 3, Calelle C. Alba-de Costa, J. B. Hammitt, Perry Moore; Dept. 6, C. W. Alston, Wesley Bachman, C. R. Lewis; Dept. 14, G. D. Kelly, Pauline L. McNally; Dept. 16, Evelyn M. Sharnsky, Mae J. Sutton; Dept. 21-1, Robert Greer; Dept. 25, K. V. Campbell, M. J. Lee, Elizabeth G. Walker; Dept. 27-6, H. F. Clonts; Dept. 29-5, Helen G. Drake; Dept. 31, J. W. Berry, A. D. Kirkpatrick.

Dept. 91-0, Roma F. Kelley; Dept. 146, J. E. Hunter, C. M. King Jr., Myrtle J. Rhoads, Dorothy M. Woody; Dept. 148, Carmen M. Mesa; Dept. 171, A. C. De Baca; Dept. 180, W. H. Allen; Dept. 192, Howard James, J. P. Schreffler; Dept. 201, J. A. Pinson; Dept. 204, A. L. Romano; Dept. 400, Rowena G. Morris, C. T. Tressler; Dept. 401, E. G. Stowers, E. L. Sumwalt.

GD/ELECTRONICS

Twenty-year: Dept. 6-5109, C. E. Bolander.

Promotions

CONVAIR

Promotions to or within supervision effective April 9.

Dept. 2-5, Commercial Sales: To director of commercial sales, R. F. Conley. To asst. director domestic sales, David Downey. To asst. director commercial sales, K. C. Gordon.

Dept. 312, F-106 Fatigue Test-Dayton: To supervisor, W. D. Bowers.

GD/ELECTRONICS

Dept. 2, Controller: To controller, H. F. Johnson.

Dept. 3, Reliability & Quality Control: To manager product test, K. W. Strowig.

Rider-Driver

CONVAIR

RIDES WANTED—7 a.m.-3:30 p.m. Fletcher Hills to Plant 1. J. E. Flynn, HO-3-2577, or plant ext. 1015.

7:30 a.m.-4:30 p.m. Area 74th & El Cajon Blvd. to Plant 1. Marie Davidson, HO-6-7341, or plant ext. 1767.

8 a.m.-4:30 p.m. Cabrillo Village to Plant 1. Jo Ann Kranz, BR-7-1746, or plant ext. 2910.

* * *

RIDERS WANTED—3:30 p.m.-12 midnight. Escondido to Plant 1 or 2. A. E. Bougher, SH-5-7258, or Plant 1 ext. 2987.

* * *

CAR POOL—8 a.m.-4:30 p.m. Chula Vista to Plant 1. R. Koser, GA-2-0227, or plant ext. 1674.

7:30 a.m.-4:30 p.m. Mission Village West, Beagle-Ashford St. area to Plant 1. Fred Acomb, GD/E, plant ext. 1886.

7:30 a.m.-4:30 p.m. Encanto Skyline Hills area to Plant 1. Fred Buffington, 262-2758, or plant ext. 2328.

Deaths

VISTERCIL—James F., Dept. 31. Died April 6. Survived by wife, Petra; son, Kenneth; daughter, Mrs. Sara Guevara; brother, Jerry Vistercil.

Personals

Sincere thanks to my Convair and Astronautics friends for their cards, flowers, and many kindnesses during my recent illness.

Jean Garrett,
GD/Astro, Dept. 601-0.

Retirements

CONVAIR

BLACKBURN—Fred H., Dept. 215. Seniority date Sept. 12, 1955, retirement effective March 9, 1962.

GENARO—Margarette M., Dept. 116. Seniority date June 16, 1950, retirement effective April 6, 1962.

GROVER—Lloyd E., Dept. 6. Seniority date Feb. 11, 1942, retirement effective April 6, 1962.

SMITH—James J., Dept. 128. Seniority date Aug. 5, 1953, retirement effective Jan. 12, 1962.

WHITEFIELD—William R., Dept. 401. Seniority date Sept. 19, 1950, retirement effective April 7, 1962.

WYLLIE—Robert S., Dept. 45. Seniority date April 6, 1942, retirement effective April 6, 1962.

Births

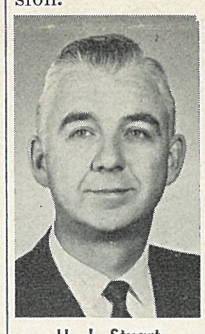
CONVAIR

ISABEL—Son, Michael Richard, 6 lbs., 4 oz., born April 7 to Mr. and Mrs. Jack F. Isabel, Dept. 3-6.

Stuart Named To GD/E Post

Appointment of H. J. Stuart as General Dynamics/Electronics manager of reliability and quality control has been announced by William Lawrence, general manager at San Diego.

Stuart, who steps up from manager of product test, succeeds E. S. Winlund, recently transferred to GD/Astronautics division.



H. J. Stuart

A native of Massachusetts, Stuart holds a bachelor of science degree in electrical engineering from Massachusetts Institute of Technology. He has had wide experience in the field of system evaluation and product testing.

Before joining GD/Convair engineering in 1957 he had been manager of Engineering Services Division of Telecomputing Corp. for three years. Responsibilities during that time included development of data gathering and data handling techniques for missile and aircraft development testing of the Holloman AFB-White Sands Proving Ground Range.

During the five years preceding 1954 he was supervisory engineer at the Holloman Air Development Center responsible for instrumentation and operation of such upper air research projects as V-2, Aerobee Sounding Rocket and high altitude balloons.

He was electronics group engineer with GD/Convair's electronics section before transferring to GD/Electronics division early in 1961.

Replacing Stuart as manager of product test is K. W. Strowig, formerly supervisor in test engineering.



SCHOLARSHIP WINNERS—GD/Convair Management Club 1962 scholarship winners pose with parents following April 11 judging. Six finalists, with parents in background, are (from left), Walter Smith, Christina Klumph, Van Kemper, Carol Russell, Stephen Pazan, Susan Ward.

S-C 4020 Users Confer at SD

"Computers can bury us in mountains of data unless we can convert output to forms which engineers, scientists and managers can easily understand and use for making decisions," George McGinley, sales manager for electronic data processing products, General Dynamics/Electronics-San Diego commented during a "users' conference" in connection with the S-C 4020 high speed computer recorder, held this month in San Diego.

"The S-C 4020 is designed to perform that function," McGinley continued. "Computer experts recognize the importance of generating output in charts, curves, pictures and other graphic forms which can be quickly understood by humans."

Nearly 100, representing about 70 different companies, attended. GD/E was host and assistant sales manager N. E. Frawley was chairman.

The S-C 4020 records computer-generated data on 35mm microfilm or 9½-inch wide photo-recording paper. It utilizes electron beams to plot graph curves at 2,500 points per second off-line; and also can print alphanumeric tabular information at speeds of 8,000 lines per minute.

Among users of SC-4020 represented at the conference were David Taylor Model Basin, Washington, D. C.; Naval Weapons Laboratory, Dahlgren, Va.; Bell Telephone Labs, Murray Hill, N. J.; Jet Propulsion Lab, Pasadena, Calif.; GD/Astronautics; General Atomic; Autonetics, Rocketdyne and Space and Information divisions of North American Aviation; Los Alamos Scientific Laboratory, Los Alamos, N. M.

GD/E's Herbert Arnois, Dennis Brending, Fred Walz and John Steely were among lecturers. Explaining 4020 applications were Kedar Pyatt and William Lindley of General Atomic, Harold Pietsch and Ruck Byrne of GD/Astro, Leonard Yarbrough of North American. Simon Viejo and Charles McGehee of GD/E, Miles Aakus and Robert Foster of GD/Astro also were among speakers.

Free Padre Tickets Offered to Lucky

Baseballs fans will have a second chance at free tickets to Padre home games scheduled in May if their entries are drawn from the hat next week.

CRA will give winners tickets to May 4, 5, 6 games with Vancouver; May 8, 9, 10 with Seattle; May 11 12, 13, Portland. Hawaii will play at San Diego May 18, 19, 20.

Deadline for entries is next Wednesday (May 2).

Slips with name, clock number, shift, department number, location, plant extension must be taken or mailed to employee services, Bldg. 32, Plant 1, before that afternoon.

Both GD/Convair and GD/Electronics people at Plants 1 and 2 are eligible.

GD/Electronics Son, Daughter Win $1,000 Club Scholarships

(Continued from Page 1)

standing senior girls, Science Club, Math Club, Girls' State, California Scholarship Federation, as well as Student Council.

Among special recognition awards she received were the Bank of America Achievement Awards trophy in liberal arts and certificate in foreign language.

She intends to enter Pomona College this fall to head toward a career in law or the diplomatic service.

Van Kemper, a senior at Helix High, will attend Stanford University. He plans a teaching career, probably in foreign languages.

He has been manager of the school's varsity cross-country and track teams; president of the Future Teachers Club; member of the National Forensic League, Inter-Club Council, Math Team, CSF Quiz Team. He holds achievement awards in biology, Latin, and English.

Scholarship committee members who had the difficult task of selecting winners from an original field of 67 applicants were: T. N. Houk, chairman; Barbara Vincent, co-chairman; James Woodhouse, Clair Taylor, Pat Fitzgerald, Gene Amory, M. C. Tombler. Ray Lange was Management Club board of control member.

MacSave-it Awards Go to Two Buyers

(Continued from Page 1)

indicators and machmeters instead of having new dials installed by a vendor.

His solution saved an average of $240 per instrument or a total of $35,500 for the 990 jet transport program.

L. A. Davis, buyer in military procurement (Dept. 34-1), initiated action to modify production lot sampling of certain ballistic components on the F-106 supersonic escape system.

His CIP, which won the March MacSave-it award, resulted in an immediate saving of $13,500 to GD/Convair and the Air Force, with possibility of carry-on savings in the future.

R. M. Hatcher, director of industrial engineering, presented awards at the April 18 Management Club meeting.

Tool Stores Open To All Employees

All General Dynamics employees located at either Plant 1 or Plant 2, GD/Convair, are entitled to make purchases at the employees' tool stores through payroll deductions.

The convenience is open to all General Dynamics people, regardless of division. Store location at Plant 1 is in north end of Bldg. 32; at Plant 2, in Bldg. 2.

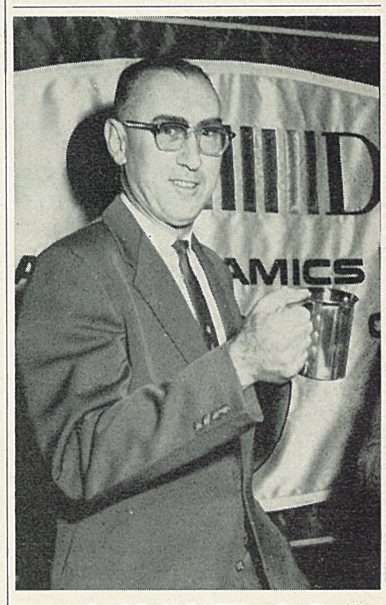
Monthly Schedule For Salvage Set

Salvage yard schedule at GD/Convair and GD/Astronautics for the next four weeks is:

GD/Convair—April 28, May 12.

GD/Astro—May 5, 19.

Both yards are open to General Dynamics employees from 8 a.m. until noon on the alternating Saturday sales' dates.



MUG OF MONTH—B. T. McMicken, Dept. 133 foreman, was cited as example of "all loyal GD/Convair people" by Factory Manager F. H. McLaughlin when he was handed Mug of Month April 18.



SAVERS—L. A. Davis (left) and Nick Kosmas, both Dept. 34 buyers, receive MacSave-its for March and February from R. M. Hatcher, director of industrial engineering, across huge cake marking 20th birthday of GD/Convair Management Club.

General Dynamics NEWS

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Jet 990 Sets Rugged Record

What may be a record in use of a Convair jet transport in a single day was recorded by a Swissair 990 Coronado during pilot training last week.

The first SAS-marked jetliner flew 16 hours, 38 minutes, during a 24-hour period from Arlanda, Sweden, training base on April 16. It made 19 landings, averaging one every 53 minutes, reported Frank Laffoon, GD/Convair field service rep with Swissair.

If all the miles flown by the 990 during that day were laid "end to end," say transport service mathematicians, the craft covered 10,600 miles at an average 550 knots cruising speed—or two round trips cross-country from Los Angeles to New York and a leg to El Paso, to boot.

Institute Planning Panel Discussion

A panel discussion on "Philosophy and Techniques of Documentation" will be presented at 1:30 p.m., April 28, at the Flame Restaurant by the San Diego Chapter, American Documentation Institute.

The discussion will continue until 5 p.m., featuring panelists J. W. Perry, University of Arizona; John Mitchell, Sperry-Rand Corp.; and Ross Williams, GD/Convair.

Following a social hour (5-6 p.m.), and dinner at 6 p.m., Dr. Robert Hayes, ADS president-elect, will speak on "How Computers Digest the Thought Process."

Additional information is available from K. G. Blair, GD/Astro ext. 4464.

New SAVE Chapter To Elect Officers

Charter members of the newly-formed San Diego chapter of SAVE (Society of American Value Engineers) will elect officers at their May 8 organization meeting.

H. P. Williams, General Dynamics/Convair value control manager, will chairman the 6:30 p.m. dinner meeting in the Convair executive dining room, Pacific Hwy.

General Dynamics divisions in San Diego will be among the companies represented by at least 45 members. Regular schedule of meeting dates, committee appointments will be on the business agenda.

Langlois Is Speaker At Tooling Seminar

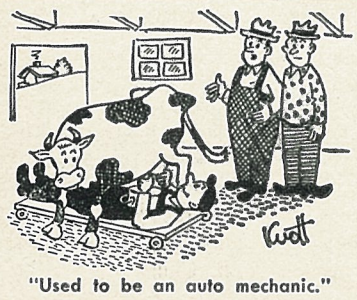
A. P. Langlois of General Dynamics/Convair was on the program both days of the April 11-12 High Energy Rate Forming Seminar sponsored by American Society of Tool and Manufacturing Engineers at Denver, Colo.

Langlois, supervisor in applied manufacturing research, spoke on "Case Studies of Electro-Magnetic Forming" at the Wednesday morning session. The next afternoon his topic was "Dynapak Compaction of Ferrites."

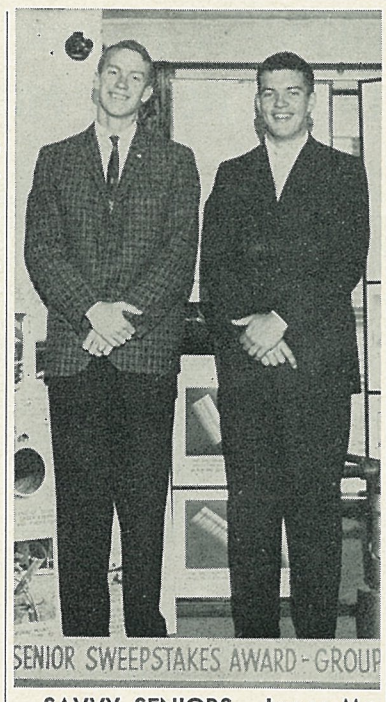
B-58 Engine Changed In Record Time

A crew of the 43rd Bomb Wing changed a B-58 Hustler engine in the record time of 2 hours, 21 minutes, in March, chopping 54 minutes off the previous record time.

Crew members were S/Sgts. Edwin A. Bruner, Edward L. Euglow, and Duane T. Boynton, and A/1c Ronald G. Carns and David L. Lake.



"Used to be an auto mechanic."



SAVVY SENIORS—James McCabe, left, son of GD/Astro's C. F. McCabe, Dept. 544, and partner Thomas Tracy, won Senior Group Sweepstakes at recent Greater San Diego Science Fair. Both boys are seniors at Pt. Loma High School and prepared elaborate study exhibit on "Astronomical Spectroscopy."

TRI-HOSPITAL FUND AIDE APPOINTED FOR 1962 DRIVE

Joe Frivaldsky, labor relations representative at GD/Astro, has been named to help guide the 1962 employee-group solicitations for Tri-Hospital Building Fund in San Diego.

Goal of the Fund is to raise $10.5 million for expansion and modernization of patient care facilities at Sharp, Scripps and Mercy Hospitals. Some $5,425,079 in subscriptions, on which cash amounting to $4,050,492 has been paid, have been received to date.

General Dynamics employees in the San Diego area have contributed generously to the drive to date through payroll deductions.

Technical Society Forms at San Diego

A local section of the Society for Nondestructive Testing, Inc., has been formed in the San Diego area, and is open to all persons interested in materials examination using nondestructive methods.

The technical society will meet on the second Monday of each month.

GD/Astronautics employees interested in the group have been asked to contact J. D. Scherkenback or D. E. Billinghurst, ext. 1767, for additional information.

Research Engineers Attend Congress

Two General Dynamics/Convair research engineers presented papers at the 43rd National Welding Congress in Cleveland, Ohio, April 9-13.

R. D. Beemer's paper was "Welding Comparison of Gas Shielded Arc Processes." L. J. Mattek spoke on "Welding Nickel-Base Alloys."

Both are senior manufacturing development engineers in Dept. 23-1, applied manufacturing research and development section of resources engineering.

Cottontail Finds GD/Convair Home

Wildlife news at GD/Convair is keeping abreast of spring.

As buds burst all over, John Weber, gardener, keeps a honey-coated stick handy for in-between lunches of a mother hummingbird rearing two babies in the Bldg. 1 patio.

A young cottontail also has found refuge where there's loving care — and food! Weber daily supplies carrots and lettuce to the bunny, hiding out in the tool shed.

Delta to Inaugurate Caribbean Service First of Next Month

Delta Air Lines' Convair 880s will inaugurate Delta's new all-jet service to the Caribbean next week (May 2).

Convair jetliners will make two round trips a week between Los Angeles, Montego Bay in Jamaica, and Caracas, Venezuela. First through-plane jet service also will start the first of May between Los Angeles and San Juan, Puerto Rico, with one intermediate stop at New Orleans.

Delta is rescheduling 880 flights out of San Diego as of this Sunday (April 29).

A Convair 880 will leave Lindbergh Field daily at 8 a.m. for Los Angeles; Dallas, Texas; and Orlando, Fla.

Another Convair 880 will arrive at San Diego each day at 8:33 p.m. over the same route from Orlando.

30-YEAR VETERAN KILLED IN CRASH

A. E. Rominger, who had been with General Dynamics/Convair over 30 years, was killed last Friday in an automobile crash on Hwy. 395 on his way to work at Plant 1. Services were held yesterday in Greenwood Mortuary.

Rominger, a native of Ontario, Canada, first joined Consolidated Aircraft in Buffalo, N. Y., in 1928 as an electrician. He moved to San Diego with the company in 1935, working in final assembly as night foreman.

Throughout the years he was in production operations of the B-24 and PB4Y2, climbing the ladder to general foreman of final assembly during World War II. In 1945 he transferred to experimental where he had been an assistant foreman since 1952.

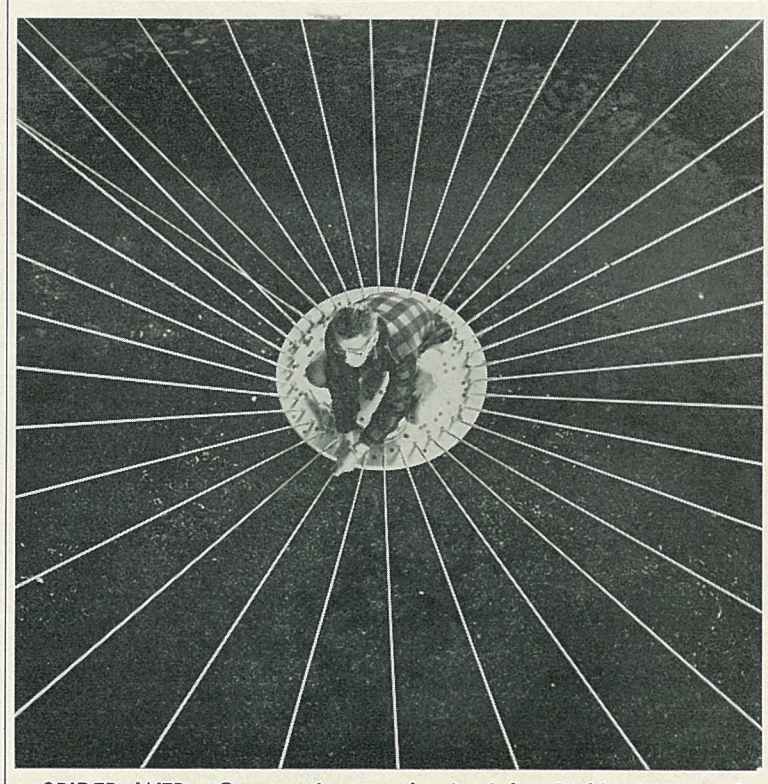
Surviving are his wife, Marcella; a son, David of GD/Astronautics; two daughters, Mrs. Nancy Briskey and Mrs. Claire Bittrick, all of San Diego.

GD/FW Son Selected For Denmark Trip

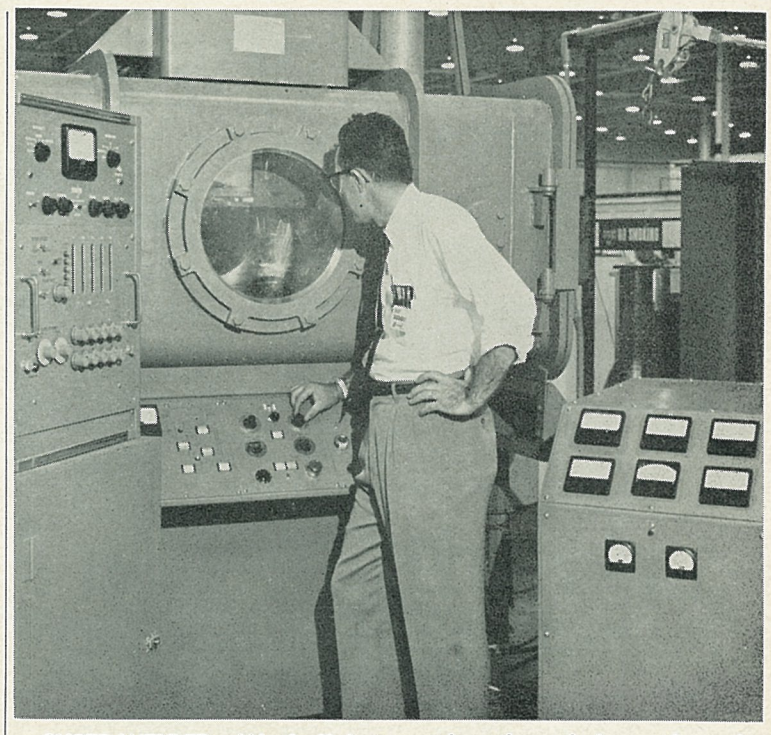
Dean Dupre, son of R. M. Dupre, GD/FW Dept. 22-5, has been awarded an American Field International Scholarship as a finalist in the "Americans Abroad" part of the student exchange program.

The 16-year old Halton High junior will live with a family in Denmark this summer as an exchange student. He sails from Montreal on the Dutch liner "Seven Seas" June 15.

Dupre, an honor student, will absorb the culture and customs of the people of Denmark while showing them the customs and ideals of American youth.



SPIDER WEB—Construction mechanic John Riehl, Astronautics Dept. 250-3, is "man in the middle" as he adjusts rods suspending GD/Astro's spiral staircase over reflection pool in Bldg. 2 reception center. Photographer Tom Mahnken spotted "spider web" pattern and made photo. Staircase is often used as spectacular setting for such events as fashion shows, etc.



SUPER-WELDER—W. J. Kairot watches through inspection window in vacuum chamber as GD/Astro's new electron beam welder is tested. Cabinet at left is numerical controller on which welding task is programmed, then carried out automatically inside vacuum chamber. Electron beam operates on same principle as TV picture tube; must work in vacuum.

Device Explores Exotic New Welding Methods

A device for exploring the most exotic of modern welding techniques has been acquired by General Dynamics/Astronautics for use in applied manufacturing research and process development (Dept. 290-2).

The unit—an electron beam welder—is the largest of its kind in the San Diego area. It will be used for acquiring data on electron beam welding of refractory metals (tungsten, tantalum, molybdenum, etc.) readily oxidized metals (beryllium, titanium, etc.) and certain vacuum-melted alloys.

GD/Astro's unit, built by Alloyd Electronics Corp., will handle materials ranging from foil-gauge to one-inch thickness.

The electron beam welding method operates on the same principle as a television picture tube. The picture in the TV set is "painted" by a moving beam of electrons emitted when a metal filament is heated to high temperature.

The electron beam welder also contains an "emitter" — a filament heated to a temperature of 3,632° F. Acceleration and beam density is supplied by a 30,000-volt, 250-milliamp current. Unlike the "sweeping" beam in a TV tube, the electron beam remains stationary. Materials to be welded are placed at the point of concentration, where energy of the electron stream is converted to intense localized heat on contact with the metal.

Also similar to the TV principle, the electron beam must operate in a vacuum (in open air, electrons collide with air molecules and dissipate their energy, and air causes filament destruction through oxidation).

Thus the welder is equipped with a work chamber six feet long, two feet wide, and 30 inches high, in which a vacuum equal to an altitude of 250,000-feet is maintained.

Parts to be welded are set up on a work table inside the chamber. When the chamber is sealed and the vacuum induced, electric motors drive the table under the beam at speeds of 0-100 inches per minute in the X-axis. The work is directed automatically from start to finish by commands pre-set on a numerical controller

A manufacturing research team of W. J. Kairot, welding engineer, and Marlin Robinson, metallurgist, will explore the variety of advantages afforded by electron beam techniques.

First, because the welding operation is conducted in a vacuum, there will be no contamination of parts by absorbed gases.

Because of sharp concentration of the electron beam, smaller areas of parts being welded are affected by heat; and weakening through shrinkage is reduced because less metal becomes molten during the welding process.

A valuable by-product with vacuum-melted materials is that many of them benefit in terms of strength by the de-gassing which takes place when they are heated in a vacuum.

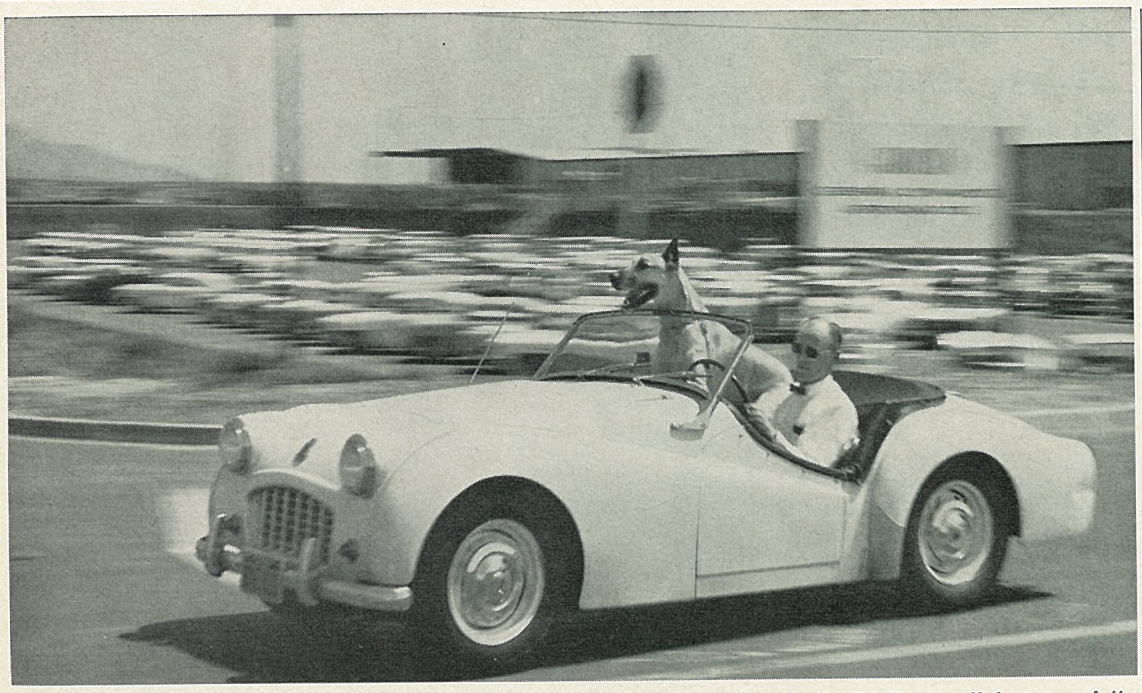
With this process, butt joints will not require traditional "V", "J" or "U" setups, but need only tight contact between parts to be welded for satisfactory results. Lap joints can be made simply by running the electron beam across the area where materials overlap, rather than welding and filleting the seam along the edge of each lap individually.

T-joints can be similarly handled.

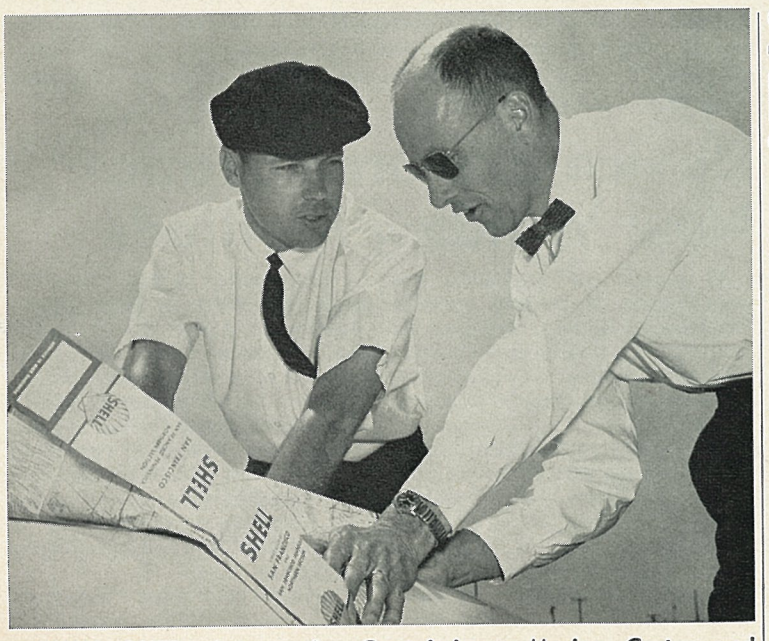
Electron beam welding may also prove useful for repair of weldments or brazements where a part could not survive the high temperature reprocessing cycle required by conventional repair methods.

Another eye-catching use for the new device is seen in welding "parts within parts."

"Imagine we wished to join units of 'E'-shaped cross-section together at the 'arms' of the 'Es'," said Kairot. "We'd simply place the arms in contact with each other, then selectively focus the electron beam to weld the top, center, or bottom arms individually—or all at the same time!"



NAVIGATOR—ARA Sports Car Club can't complain if their Atlas Rally IV "queen" is termed "a real dog." It is. Jack Stevens' great dane, Mike, shown here serving as Rallymaster George Lahey's "navigator," was selected as rally symbol this year.



'WAY OUT?—Astronautics Commissioner Marion Carter and Rallymaster George Lahey study map preparatory to Atlas Rally IV to be conducted by ARA Sports Car Club April 29 at San Diego. Officials are vague about Rally's route, but isn't that San Francisco map they're pondering?

Sports Drivers Heading Cars Toward Astro

Southern California sports car rally fans—experts and beginners alike—will converge on General Dynamics/Astronautics at San Diego Sunday, April 29, for the fourth annual running of ARA Sports Car Club's Atlas Rally.

First car will roll off at 7:01 a.m. on a scenic route designed to accommodate beginning competitors, yet challenge the most experienced driver.

Dash plaques will go to all cars entered in the event, and trophies will be presented to the top 10 drivers and navigators in both navigational and "seat of the pants" classes. Many other trophies and door prizes are planned.

Rest stops totaling two hours are incorporated in the rally timetable, with the event concluding at Marty's Valley Inn near Oceanside.

As in previous Atlas Rallies, most ARA Sports Car Club members will be busy with administration. George Lahey is rallymaster, Jack Stevens in charge of course layout and checkpoints, Marion Carter, ARA commissioner, publicity, Marge Lahey, awards, Jim McRae, scoring, Dave Stephens, applications, Jim Cochran, following cars, and Derek Beck, photography.

"Beginners and non-sports car owners are especially welcome," said Carter.

Additional information is available from him at Astro, ext. 2092, or BR-4-1705; or Lahey, ext. 3206 or BR-7-6384.

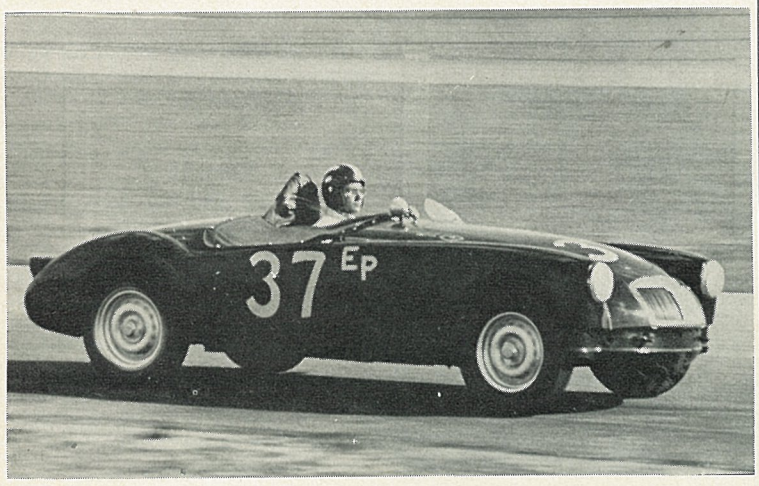
Field Service Duo at Cape Canaveral Unbeaten in Two Seasons of Racing

CAPE CANAVERAL — Two GD/Astro field service engineers (Dept. 324-8) assigned here have scored top honors in recent Florida sports car events.

Car "37," a twin-cam MGA roadster owned by John P. Hill Jr., and driven by Herb Byrne, has not only gone unbeaten in two seasons of class "E" racing, but has usually finished ahead of most class "C" and "D" production cars.

The car also holds the class "E" production record for the 2.5-mile lap with a speed of over 121 mph!

This season Hill will do most of the driving himself, as Byrne concentrates on duties as assistant regional executive for Sports Car Club of America (Central Florida). Recently he has been race chairman for several major events, including the three-hour Daytona Continental.



UNBEATEN—Astro's Herb Byrne (Cape Canaveral) drives car "37" owned by John Hill in National Sports Car Club of America race at Daytona (Fla.) International Speedway. Car has record of two undefeated seasons.

Engineers at General Dynamics Eligible For University Extension Courses

An engineering review course of special interest to General Dynamics people in the San Diego area starts this week under auspices of University of California Extension.

The review for persons preparing for engineering examinations offered by California Board of Registration for Civil and Professional Engineers began April 24 at Roosevelt Junior High School.

A second section begins tomorrow (April 26), also at Roosevelt.

Prerequisite is a degree in engineering or four years of practical experience, or an equivalent combination of college and experience.

Information is available at University Extension office in S.D.

British, Japanese Briefed on Missiles

Military personnel and civilians from opposite sides of the world visited General Dynamics/Pomona this month.

Seven representatives from Japan were at the Pomona Division April 12 and 13 for briefings on the Tartar missile system. They included Cdr. Naotoshi Ohkubo, Lcdr. Kazumi Ishihara, Lt. Masayuri Akiyama, Hayao Hashimoto, Akinari Hamuro, Yasuo Tomohira and Rigeru Seguawa.

Col. Francis Peathey-Johns and Lt. Col. W. D. Blackman of the British Army Staff visited Pomona April 13 to discuss the Mauler weapon system.

Tartar is a supersonic surface-to-air guided missile developed and produced at GD/Pomona for the U. S. Navy. Mauler is a mobile missile system under development at Pomona for the U. S. Army.

EMMERICH SPEAKS ON MERCURY FLIGHT

Lew Emmerich, GD/Astro project manager, electronics project office, was principal speaker at an April 19 meeting of the Central California section, American Rocket Society. He led a group discussion on "Unique Aspects of the Mercury Flight."

Engineers Training in Factory To Get Newest Mfg. Technique

Design and structures engineers in air frame design section at GD/Fort Worth are invading classroom and shop areas to learn about latest manufacturing techniques.

About 60 engineers are currently enrolled in an in-plant 21-hour production engineering course, consisting of classroom lectures by specialists and frequent tours of shop areas.

"We're learning about new developments in fabrication techniques, shop equipment and inspection procedures that have taken place since the last major product design at GD/Fort Worth," said F. A. Lindstrom, structures design specialist, who deserves much of the credit for starting the course.

"Much has happened since we advanced the state of the art in many production areas with the B-58.

"This is especially true in the cost area. The idea now is to design the best possible product for the cheapest possible price. This is difficult to do without an awareness of the very latest manufacturing techniques."

Numerical machining, high-energy rate forming, chemical milling, electroforming and mechanized welding are only a few of the techniques under investigation.

One class of about 30 students attends an hour session each Tuesday morning, while another 30-member class attends a Thursday morning meeting.

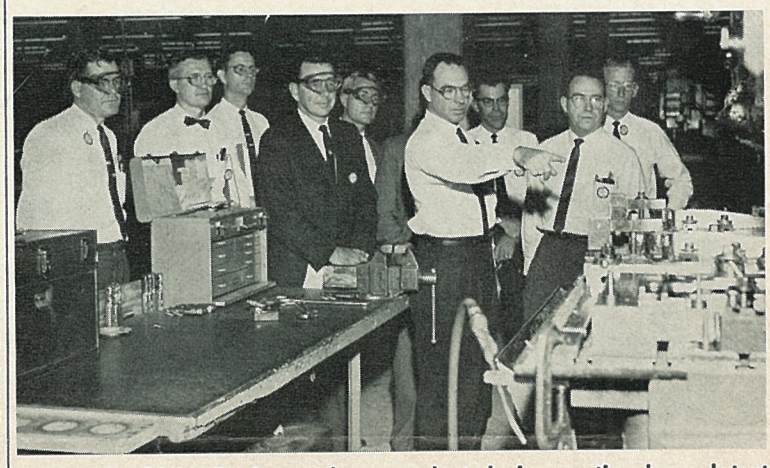
Some of the broad subject areas—all considered with an eye to limitations and costs—are: factory modernization, dimensioning, forming, chemical processes, plastics and glass laminates, bonding and brazing, metal removal, portable tools, new processes, numerical control lofting and forging.

Lindstrom said the program met with "enthusiastic response" from engineering, manufacturing research and development, and educational services section.

W. R. Ellis, Dept. 23, and Doug Anderson, Dept. 3, coordinators, assisted in setting up curriculum and scheduling instructors.

An introduction to the course was presented by Dick May, chief of applied manufacturing research and development.

"Ellis is handling the unprecedented and continuous coordination job with amazing smoothness," Lindstrom said.



IN "CLASS"—Engineers from product design section learn latest manufacturing capabilities in special class at GD/FW. H. R. Cook explains intricacies of vertical milling machine.

Bldg. 51 Third Floor at San Diego Rearranged For Astro Sections

Over 1,000 General Dynamics/Astronautics engineers and support functions will be consolidated in Bldg. 51 at GD/Convair Plant 1 soon after the first of the month.

Third floor of Bldg. 51 has been rearranged to accommodate majority of Astro contingent at the Plant 1 facility.

Moving from other areas within GD/Convair will be approximately 450 engineers supporting laboratory functions—electronics, physics, hypersonic, computer. Laboratory technicians will remain physically located within the various lab areas.

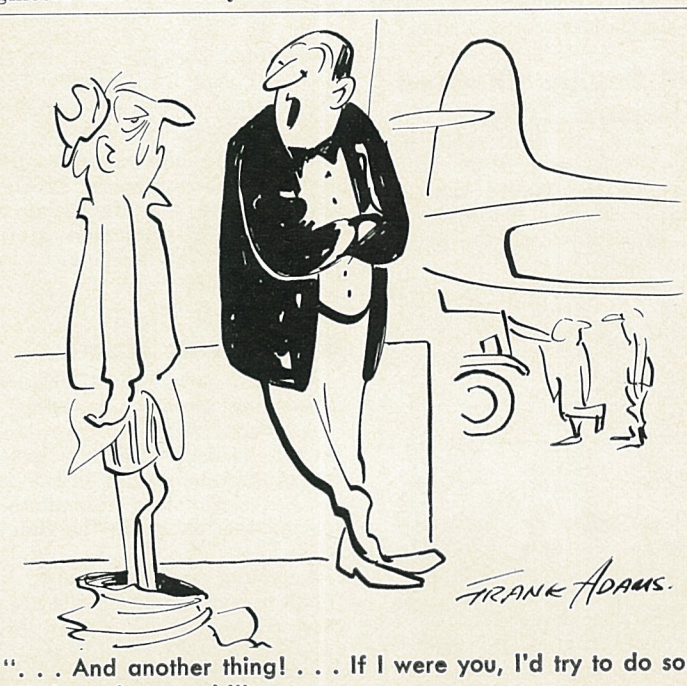
Engineers in materials research will remain on the second floor of Bldg. 5 for close communication with the laboratories on the floor below. Systems dynamics engineers also will stay in their present location in Bldg. 6, near their lab and test facilities.

Major shift will see 575 product support people in Depts. 321 and 322, under Roy Lessard, manager, moving from Astro main plant to Bldg. 51.

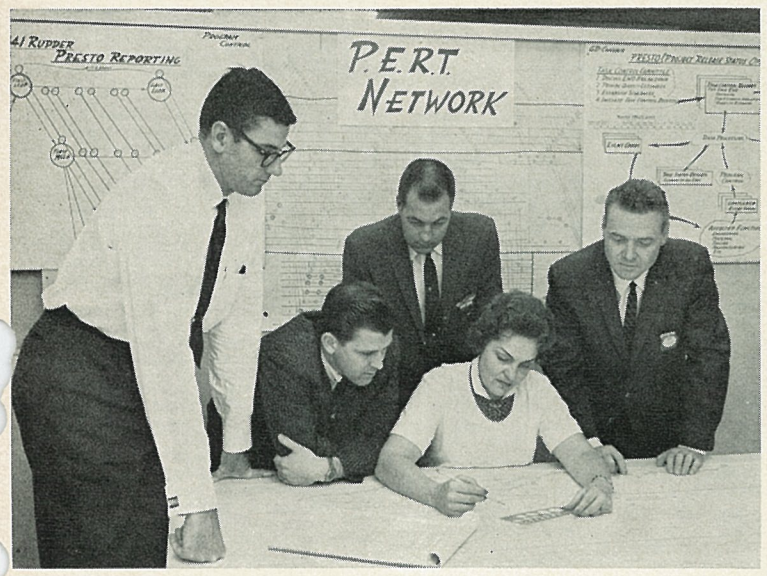
Most of the group have been in Bldg. 26 at the Kearny Mesa site. About 80 are moving from Plant 2.

Engineers in the handling equipment design sub-section (Dept. 536), numbering about 150, will be only rearranged within the area, since they have been situated in Bldg. 51 for several months.

Also located in the San Diego proper area are 140 Astro data systems (Dept. 170) people, under Ward Soule, in Bldg. 19. As far as is known at present, they will not be relocated.



". . . And another thing! . . . If I were you, I'd try to do something about that cough!"



"PRESTO" MIXERS — Programmers at GD/Convair watching Chique Stieringer apply new-developed PRESTO system in updating PERT network to chart C-141 time schedules are (from left) Roy W. Dill, Phil Shepard, W. B. Moyer, Don Ehrreich.

PRESTO Added to PERT As New Refinement of Pinpointing C-141 Effort

Program planners at General Dynamics/Convair are finding that their own refinement of PERT (Program Evaluation Review Technique) is paying off in recording progress of the C-141 program.

The new development, instigated by Willard Dewey, program control manager, breaks down the overall PERT system into finer increments of time to measure each step along the network. And fittingly, the alphabet jumble comes out PRESTO—Project Release Status Operation.

PERT has been in effect at GD/Convair, first during updating of the Convair 990 program, and then on the C-141 subcontract project from time of contract award last fall.

The management tool for evaluating and reviewing progress of a program, specifically during development stages, has been applied by GD/Astronautics, GD/Pomona, GD/Fort Worth over the last couple of years (**General Dynamics NEWS,** March 28, 1962).

"PRESTO is a supplement to PERT," explained W. B. Moyer, program control administrator.

"Now, each small step or 'footstone' between the wider time spans on the PERT network (integrated plan showing events in logical sequence) can be monitored and tighter control maintained.

"Actual progress in comparison with advance schedules can be seen instantly at any given time. Critical areas can be pinpointed and corrective steps taken immediately."

PRESTO is put into motion by task control records establishing schedules for each releasable part of a given task. From these records data processing turns out IBM cards for each event, or step necessary in the long chain between design and production. A report summarizing status of all events is compiled at the same time by the 7090 computer.

Events cards go to PRESTO coordinators for report of actual or estimated date of completion for each operation within their departments.

"Print-outs" of PRESTO reports showing actuals and estimates go to program control for analysis and means of reporting progress with PERT. Three runs are maintained. One is a complete record of all events taking place on C-141 empennage work. The second gives information on events completed on the first production item, and the third, on events leading up to delivery of the static test article.

The evaluation system will be maintained throughout production of the first two C-141 items only.

As the reports are constantly up-dated, they go to Lockheed Georgia, prime contractor, every two weeks to be integrated into PERT information from all other C-141 subcontractors. In turn, the entire progress of the program is sent to the Air Force.

At GD/Convair, heart of task control operations is in the C-141 Planning and Scheduling Control room on second floor of Bldg. 5. There Don Ehrreich, master scheduler, and Chique Stieringer, statistical technician, constantly keep PERT and PRESTO charts and graphs current from information fed by coordinators.

Each function involved in C-141 work is represented by the following coordinators: Harry Millar, engineering; Dan Macey, material; Ralph Cutler, tooling; Don Dvorak, manufacturing control; and Paul Pearson, factory.

Class on PERT Oversubscribed

First formal PERT familiarization at General Dynamics/Convair briefed 164 supervisory people over a six-day period early this month.

Originally set up for functions connected with the C-141 subcontract program, demand from other departments at both Plant 1 and 2 was so great, said H. W. Rubottom, chief of educational services, that classes had to be expanded.

Even 19 from Solar asked to be included.

A second series of PERT training classes was held last week (April 17, 18, 19) for General Dynamics/Electronics.

One other class was held last Thursday for second-shift people at Plant 2.

All classes were coordinated by Will Weidenfeller of educational services. They explained the history of PERT, how it works, what it offers management.

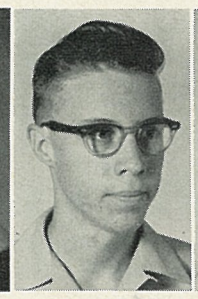
A PERT film, "Breakthrough," showed how the system was used successfully throughout the Polaris missile program, for which it was developed by the Navy Project Office.

Outstanding Students Earn 11 Dynamics Scholarships

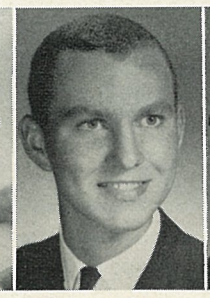
Eleven General Dynamics sons and daughters from six of the corporation's divisions have been awarded General Dynamics Corporation Merit Scholarships for 1962.

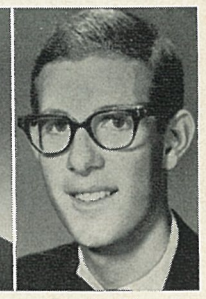
GD/Convair, GD/Pomona, GD/Astronautics, and GD/Fort Worth each had two winners; one was from GD/Electronics at San Diego; and two from Electric Boat Division, Groton, Conn.


Therese Adams


Edward Fore


Dorothy Dismukes


Stuart Galley


Don Lapidus


Stephen Pazan


Gary Chapman


Beth Ann Burdick


Robert Edgell

Winners announced this week are:

GD/Astronautics—Stuart W. Galley, son of Robert L. Galley (Dept. 557-3); and Don S. Lapidus, son of Leo Lapidus (Dept. 101-5).

GD/Convair —Gary C. Chapman, son of Charles W. Chapman (Dept. 6-200); and Stephen E. Pazan, son of Edward C. Pazan (Dept. 48-11).

GD/Electronics — Therese R. Adams, daughter of Stanley O. Adams (Dept. 6-5107).

GD/Fort Worth — Dorothy L. Dismukes, daughter of Jack H. Dismukes (Dept. 24-5); and Edward M. Fore Jr., son of E. M. Fore (Dept. 25-3).

GD/Pomona — Beth Ann Burdick, daughter of Mrs. Florence W. Burdick (Dept. 6); and Robert A. Edgell, son of Alan D. Edgell (Dept. 6).

GD/Electric Boat — William R. Hammock Jr., son of William Rex Hammock; and Linda Jean Sammataro, daughter of Francis Sammataro.

All of the young people are top students in their senior classes and stood at the top of the list in National Merit Scholarship qualifying tests. Awards range from $1,000 to $6,000 over four years of college.

Stuart Galley is graduating from Grossmont High School where he has been active in student affairs. He was member of the varsity track and cross-country teams; life member of California Scholarship Federation; a member of the Student Council.

He will major in mathematics at California Institute of Technology.

Don Lapidus is a senior at Point Loma High School where he is a life member of CSF and president of the school chapter this year. He was chosen outstanding student of his junior class. He holds letters for two years on the varsity tennis team. This year he was president of Skeptics, school discussion club.

He will enter Harvard University for a major in foreign languages, planning a teaching career.

Gary Chapman is also graduating from Point Loma High this spring. He has been active in the American Youth Hostel and San Diego Yacht Club. In school he is a member of CSF, chairman of the safety committee, and member of Student Opinion group.

Gary will major in political science at Pomona College heading toward a career with the State Department.

Stephen Pazan, a student at Kearny High School, was also runner-up in the GD/Convair Management Club scholarship contest this year. As all the rest of the top scholars, he is a life member of CSF. He was cadet major in the ROTC this year; member of the Math Club; member of Quill & Scroll.

He will enter California Institute of Technology this fall and plans to specialize in physics.

Therese Adams, only GD/Electronics winner, is another Point Loma High student. She is a life member of California Scholarship Federation. She received a scholarship for her freshman year at Cathedral Girls' High School and a scholarship for painting instruction at California Western University.

She intends to major in elementary education at SD State.

Dorothy Dismukes is graduating from Eastern Hills High School, Fort Worth. She is a member of National Honor Society. This year she was feature editor of the school newspaper and president of the school's Press Club. She plays the piano and organ, is a member of the school Select Choir.

Dorothy will major in elementary education at Texas Wesleyan College.

Edward Fore Jr. attends C. F. Brewer High School at Fort Worth; is a member of the National Honor Society; president of the school Chess Club this year, and president of the Mathematics Club last year. He has been an active radio amateur throughout his high school years.

He will attend Arlington State College, planning a career as electrical engineer in the communication field.

Beth Ann Burdick will graduate from Covina High School this spring. She won the Bank of America trophy in science and mathematics this year; has been a member of girls' service and honorary clubs throughout her four high school years. She is a life member of CSF, member of Intra-Club Council and was president of the Latin Club in her junior year, and a delegate to Girl's State in 1961.

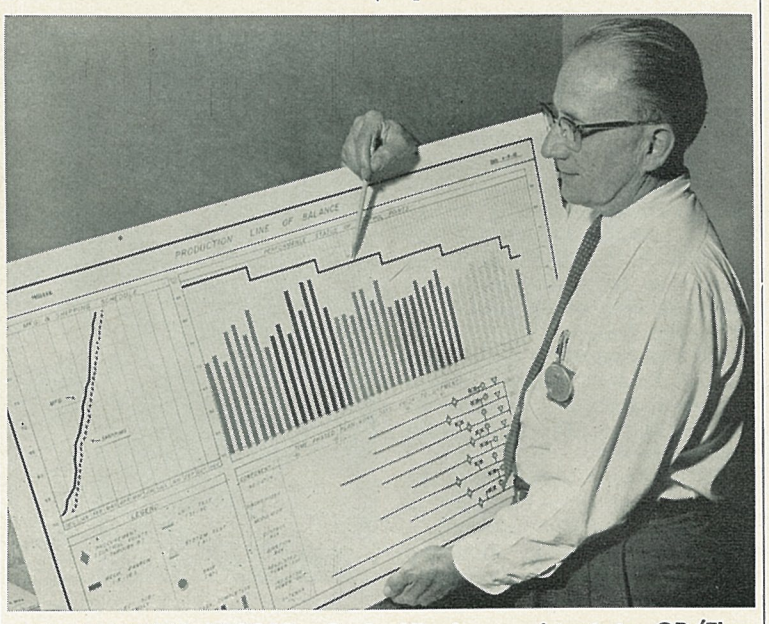
She will major in biological sciences at Stanford University, planning to be a medical doctor.

Robert Edgell attends Glendora High School where he is a member of both CSF and National Honor Society. He was on the varsity swimming team the last two years and a member of the local branch of Science Clubs of America.

Robert will major in physics at Harvey Mudd College, planning to be an engineering physicist.

GD/E's 'Line of Balance' Technique Charts Manufacturing Progress

First master chart in the production "Line of Balance" technique was issued within General Dynamics/Electronics factory operations at San Diego late last month.



PRODUCTION RECORD—R. L. Higgins, assistant to GD/Electronics manager of operations at San Diego, holds Line of Balance chart updated weekly to record progress during production.

The Line of Balance charting system can be used as a follow-on to the PERT system of recording progress of a program. While PERT is designed primarily to blaze the time-schedule trail in setting up a new program, Line of Balance charting takes over to measure actual production progress.

Although this reporting technique has been in wide use by the Navy in charting activities of prime contractors, GD/Electronics is one of the first companies on the subcontract level to put it into effect.

"The Line of Balance chart is a graphic presentation, in terms of end items, of progress required of functional areas involved in a production program," said R. L. Higgins, assistant to the manager of operations, who was responsible for setting up the system at GD/Electronics.

"It indicates, on a given reporting date, actual positions of these areas with respect to where they should be in order to meet schedules."

The chart tells the production story in four sections—graph of manufacturing and shipping schedule; time-phase plan of manufacturing; vertical bar chart showing performance of each area versus horizontal line of balance (optimum position); and legend explaining symbols and colors used.

Each week chart reproductions, together with detailed shortage or excess reports, are distributed to all supervision concerned.

"We already have concrete evidence of the value of this graphic means of recording production progress in the few weeks it has been in use," said H. L. Gates, manager of operations. "It definitely will be an important aid in keeping us aware of our position at all times and showing just where adjustments and special effort is required to meet our schedules."



CAUGHT ON FLY—Harry Lund and Forest Erwin, directors of GD/Convair-Astro Management Club bowling tourney, look harried as Larry Lawson snapped shutter during heat of kegling battle April 15.

GD/Electronics and GD/Astro Teams Lead in Club Bowling

Teams from GD/Electronics and GD/Astro swept the field to roll top scores in the second annual inter-division Convair-Astro Management Club bowling battle April 15 at Clairemont Bowl.

GD/Electronics No. 2 team topped the 41 teams competing with a high team scratch series score of 2,662.

Team members were Milt Walker, Jim Lawton, John Graves, Pat Carlton, Tony Zullo.

Anchor Men of GD/Astro scored 2,991 for high team handicap series. On the team were Larry Atwell, R. Trease, F. Bloschies, Carl Long, and Al Cohen.

In individual scoring, GD/Astro bowlers garnered all the honors. Chuck Quintin had a 618 for high individual scratch series; Atwell, 688, high individual handicap series.

Mike Brooks rolled 247 for high scratch game and Ray Fellows, 260, high handicap game.

"It was a highly successful tourney," reported Forest Erwin of GD/Astro and Harry Lund, GD/Convair, tournament directors. "There were as many spectators as bowlers and plenty of excitement in the inter-division rivalry."

Coming-up events will see the top GD/Astro team which won the NMA District A tourney in Anaheim last month traveling to Ohio for two meets next weekend. The team will enter the National Industrial Tourney in Dayton May 4 and go on to Toledo May 5 and 6 to take part in the National NMA Tourney.

Travelers will be Erwin, Jim Epperly, Eugene Harris, Dave Wells, Bill Martin, Mike Edwards.

Management Club and recreation association bowlers from both GD/Convair and GD/Astro will be competing in the Western Industrial Recreation Association tournament at Torrance in June.

GD/Astro and GD/Convair Split Honors as 2,000 See Rose Show

Nearly 2,000 persons crowded the Floral Association Building, Balboa Park, for the joint ARA-CRA Spring Rose Show. More than 1,000 blooms in 150 individual entries were shown April 15.

Top professional judges from the San Diego area officiated, with honors almost evenly divided between Astro and Convair Garden Club entries.

Top honors for six selected mixed blooms went to John Jodka, GD/Convair Dept. 91, while his wife Gloria, won the "mixed three" class.

"Queen of Show" (best rose displayed) was an entry by G. L. Scheibel, Convair Dept. 180.

Best florabunda was shown by Phyllis Files, GD/Astro Dept. 951, while Charles Ulrey, Dept. 193, Astro, displayed the best grandiflora. Top corsage entry came from Astro's Ann Freedman, Dept. 535, with Mrs. Henry Boyd, husband in Convair Dept. 31, showing the best arrangement.

Best child's arrangement was entered by Connie Boyle, daughter of Mr. and Mrs. C. T. Boyle, Dept. 250, Astro.

"The quality of blooms this year was the best ever," said Everett Henderson, ARA commissioner. "The crowd topped that at any previous General Dynamics flower show."

CRA Commissioner Gene Zimmerman and Henderson headed arrangements assisted by Phyllis Files, Mr. and Mrs. Charles Splinter, Joe Bores and Ann Freedman of Astro, CRA club president Henry Boyd and Mr. and Mrs. Walter McVay of Convair, and many other members of both ARA and CRA clubs.

Gardeners Entering Annual Rose Show

Gardeners at GD/Convair and GD/Astro will exhibit in the 35th annual Spring Rose Show of the San Diego Rose Society this weekend, April 28-29.

Entries will be taken after 7 a.m. on April 28 at Balboa Park's Conference Hall. The show will be open to the public Saturday afternoon and evening and from 10 a.m. to 6 p.m. on Sunday.

GD/Astro Volleyball Teams in Contention With GD/Convair in IRC Tournament

Two GD/Astro volleyball teams lead the Wednesday League in the current IRC tourney, with a GD/Convair team neck-to-neck with a city employees' group in the Friday League.

Astronets defeated Convair Engineers, 15-11, 11-15, 15-13, in first game April 4. A forfeit by Reliables the next Wednesday gave Astronets a second win to their credit.

In the same league Support Documentation won over the Hounds, 15-9, 15-13, in a two-out-of-three match and dumped City Engineers on April 11, 15-8, 15-12.

City Engineers took their first game from Reliables, 15-6, 15-7, and Hounds defeated Convair Engineers the second week by 15-12, 18-16.

Convair Spacemen blanked Design, 15-0, 15-0, in first Friday League match. Park and Recreation won from Project Support, 15-11, 15-13, and went on the next Friday to beat Design, 15-9, 17-15. Spacemen won their match the same night from Project Support, 15-13, 15-11.

Coming games will see Convair Engineers vs. City Engineers tonight (April 25); Reliables vs. Support Documentation; Hounds vs. Astronets.

This Friday Project Support will play Park and Recreation and Design will meet Spacemen.

Wed. Night Bowlers Will Meet May 2

Wednesday night league bowlers will meet at Pacific Recreation May 2, said CRA Commissioner Jim Hayman.

All Thursday night league keglers will get together May 3 at Frontier Lanes. Both meetings will be at 7:30 p.m.

Trophies will be handed out at the Frontier Lanes meeting.

Convair, Astro Skiers to Head For Mammoth

A few openings remain for skiers and non-skiers at both GD/Convair and GD/Astro to spend a weekend at Mammoth Mountain in the High Sierra May 5-6.

Late registrations are being taken by Helen Navoy, CY-5-2489; Joe Harris, AT-4-0278; Gene Rockafeller, Astro ext. 2868.

Accommodations have been reserved at Mammoth Mountain Inn adjacent to the ski area. A chartered bus leaves GD/Convair executive parking lot at 5:30 p.m. Friday (May 4) and GD/Astro parking lot west of Bldg. 1 at 6 p.m.

"Bring your bathing suit, sun glasses, and tanning lotion," warned CRA Commissioner Harris.

The annual Convair Ski Club Giant Slalom Race will be held on Sunday (May 6) starting at 10:30 a.m.

Highlight will be a fun race for novice skiers open to all with no entry fee. Six prizes, three for men and three for women, will be awarded.

Other events are the open club championship for perpetual trophy; open individual, three men and three women awards; and individual club championship for club members only on the short course. Six awards will be given winners.

Color Slide, Stereo Show on Schedule

"Scandinavian Holiday," a color slide and stereo sound show produced by a General Dynamics man and wife team will be shown at 8 p.m., May 5, in the Conference Bldg., Balboa Park.

The show is open to the public without charge.

The event consists of pictures taken by George Marlor of (GD/Astro Dept. 144-0) and his wife, Thelma (GD/Convair Dept. 400-7), during a 25-day tour of Denmark, Norway, and Sweden.

Special equipment designed by the Marlors affords constant pictures on the screen, each "dissolving" in to the next. Taped stereo sound provides background and intermission music.

Harry Lund Misses 300 by Single Pin

Harry Lund of GD/Convair reached heights few bowlers even dream of when he rolled a 299 recently—missing a perfect score by one pin!

A hundred cheering, moaning spectators held their collective breath as Lund made strike after strike right up to the very last ball. And when the smoke cleared, there was one lone pin standing!

However, Lund wasn't a bit disappointed. According to San Diego Bowling Association records, he's the first San Diego kegler so far this year to win the ABC ring which goes along with the feat.

He was competing in the CRA Mixed Scratch League sweepstakes at Pacific Recreation on the big night. His total series score was 698.

Hickenburps nosed out the Timber Jets by seven pins to win the league championship.

In the Mixed Handicap League, Christie's team finally won a league championship after 10 years of trying. They did it the hard way by defeating the Spoilers in the roll-off.

CRA Calendar

(In view of the fact that General Dynamics NEWS now carries the complete CRA calendar only at intervals, it is suggested that readers clip this activity list for future reference.)

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AEROMODELERS — Gene Whigham, commissioner, ext. 733, Plant 1. Meetings first and third Thursdays, 7:30 p.m. Open flying sessions, Clairemont Mesa Flying Site, Saturdays and Sundays, 7 a.m. to noon. For information call Don Larsen, ext. 2289, Plant 1.

ARCHERY—Al Phipps, commissioner. Home phone CY-5-8194. Club meets third Thursday, 7:30 p.m., CRA Clubhouse, Pacific Hwy. Workshop in clubhouse open each Thursday, 7-9 p.m. Monthly shoots second Sunday of each month, Balboa Park range. CRA office, ext. 1245, Plant 1, for information.

BADMINTON—Call CRA office, ext. 1245, Plant 1, for information. Organized play and instruction Tuesdays, 7:30 p.m., Federal Bldg., Balboa Park. Open play for Convair employees and families each day.

BASEBALL — Pete Beyrer, commissioner, ext. 1245, Plant 1.

BASKETBALL—Gil Crosthwaite, commissioner.

BOWLING—Jim Hayman, ext. 1155 or 2225, Plant 1; Mike Brooks, HO-9-8793, commissioners.

BRIDGE CLUB—Pete Beyrer, commissioner, ext. 1245, Plant 1. For information call Frank Westphal, ext. 2321, Plant 1. Meetings every Tuesday, 7:30 p.m., at Hotel Barcelona, 326 Juniper St.

CAMERA CLUB — Regular meetings second and fourth Mondays, 7:30 p.m., Photo Arts Bldg., Spanish Village, Balboa Park. Darkroom in CRA Clubhouse available to club members. For information call Ron Ainsworth, ext. 1431, Plant 1.

CHESS CLUB—Club meets each Wednesday, 7:30 p.m., CRA Clubhouse. Sets available for lunch period games. For information call ext. 1245, Plant 1.

COIN CLUB—Meetings third Thursday of each month, 7:30 p.m., Convair cafeteria executive dining room, Pacific Hwy. For information call ext. 1245, Plant 1.

DELTA DIVERS — Harry Ruscigno, commissioner, ext. 1987, Plant 1. Meetings third Tuesday of each month, 7:30 p.m., Convair executive dining room, Pacific Hwy.

FENCING CLUB—Workouts and instruction each Friday night, 7-10 p.m., YWCA, 10th and C Sts. For information call Pete Beyrer, ext. 1245, Plant 1.

FISHING—R. W. Menzie, commissioner, home phone, AT-1-8247. Club meets third Tuesday of each month, 7:30 p.m., Gillespie Field Clubhouse.

GARDEN CLUB—E. L. Zimmerman, commissioner, home phone, BR-7-3383. Club meets second Wednesday of each month, 7:30 p.m., Floral Association Bldg., Balboa Park.

GLIDER CLUB—Gene Whigham, commissioner, ext. 733, Plant 1.

GOLF—Ken Wulfemeyer, commissioner, ext. 1705, Plant 1.

GUN CLUB — Jack Swank, commissioner, ext. 2583, Plant 1. Club meets second Tuesday of each month, 7 p.m., Gillespie Field Clubhouse. Club shoot, rifle, trap and skeet, first Sunday of each month at CRA range, Gillespie Field, El Cajon. Open shooting each Sunday, and Wednesday and Friday evenings during summer months.

ICE SKATING—Skating sessions for GD/Convair employees and their families each Thursday at Iceland, 6055 Lake Murray Blvd. Special Convair rates between 6:30 and 8 p.m. For information call ext. 1245, Plant 1.

IN-PLANT ACTIVITIES—Equipment available for horseshoes, washer pitching, shuffleboard, chess, checkers, also cards for bridge, pinochle, etc. Contact CRA headquarters, ext. 1245, Plant 1.

JUDO — Pete Beyrer, commissioner, ext. 1245, Plant 1. Instruction each Thursday, 7 p.m., CRA Clubhouse on Pacific Hwy.

MODEL RAILROAD — Pete Beyrer, commissioner, ext. 1245, Plant 1. Meetings each Friday at 7:30 p.m., House of Charm, Balboa Park.

MOVIES—Reduced-price movies every day at State Theater, Euclid & El Cajon Blvd. Admission: adults, 75c; children under 12, 20c.

PISTOL CLUB—Ash Bishop, commissioner. Home phone, BR-4-1549. Club shoots second and fourth Sundays of each month at 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—James Lack, commissioner, ext. 1846, Plant 1. Club meets Thursday after issue of **General Dynamics NEWS**, 8 p.m., at Radio Club Headquarters, Harbor Drive.

RIDING CLUB—C. L. Pogorel, commissioner, ext. 2321, Plant 1. Regular meeting first Thursday of each month, 7:30 p.m., Gillespie Field Clubhouse.

ROAD RUNNERS—Ralph East, commissioner, ext. 1347, Plant 1. Trailer club meets third Thursday of month, 7:30 p.m., CRA Clubhouse, Gillespie Field. Call Pete Beyrer, ext. 1245, Plant 1.

ROCKHOUNDS—Dan Whorton, commissioner, home phone, CO-2-7047. Lapidary classes Tuesday and Wednesday, 7-9 p.m., Rockhound Shanty, Pacific Hwy. Classes for second shift, Tuesdays, 12:30-2:30 p.m. Regular meetings second Thursday of each month, 7:30 p.m., Gillespie Field CRA Clubhouse.

ROLLER SKATING—GD/Convair skate night third Monday each month. Free tickets at employee services office, Plant 1. Saturday matinees each week, 2-4:30 p.m., Skateland, Front and G Sts. Admission 25c per person for Convair employees and their families. Admittance by club membership card. Cards available at employee services.

SKI CLUB—Joe Harris, commissioner, home phone, AT-4-0278.

SOFTBALL—Tony Berardini, commissioner, ext. 2910, Plant 1.

SOLO FLYERS—Gene Whigham, commissioner, ext. 733, Plant 1.

SPECIAL EVENTS and COMMISSIONERS-AT-LARGE — Grayce Fath, Paul Pearson.

SPORTS CAR CLUB—Gerry Wright, commissioner, ext. 2074, Plant 1. Club meets first Wednesday of month, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SQUARE DANCING — Maury Scholz, commissioner, CY-5-3806. Call CRA office, ext. 1245, Plant 1, for information. Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave. Party night, fourth Saturday of month, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

STAMP CLUB — Jack Benedict, commissioner, ext. 2605, Plant 1. Meetings first Thursday of each month, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SWIMMING.— Pete Beyrer, commissioner, ext. 1245, Plant 1. Family swim night first Saturday of each month, 7-9 p.m., Mission Beach Plunge. Free tickets at employee services.

TABLE TENNIS — Pete Beyrer, commissioner, ext. 1245, Plant 1.

TROPICAL FISH—Pete Beyrer, commissioner, ext. 1245, Plant 1. Club meets second Tuesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

WATER SKI CLUB — Gene Sevigny, commissioner, ext. 2779, Plant 1. Regular meetings fourth Thursday of each month. Weekend skiing during summer months off Tierra del Fuego, Mission Bay.

'SLOW PITCH' LOOP SCHEDULED—IF

A "slow pitch" softball league will go into action this season if enough teams sign up.

Pete Beyrer, CRA commissioner, said that the popular form of softball now sweeping the country will replace shop intermural league play at GD/Convair.

"This decision was made to equalize competition and give more people a chance to play," he explained.

In actual competition, 10 men will play on each team.

Bunting and stealing bases are not allowed. The pitcher must "arc" the ball two feet on its way to the plate, a ruling to allow a hit on every ball for more action in the field.

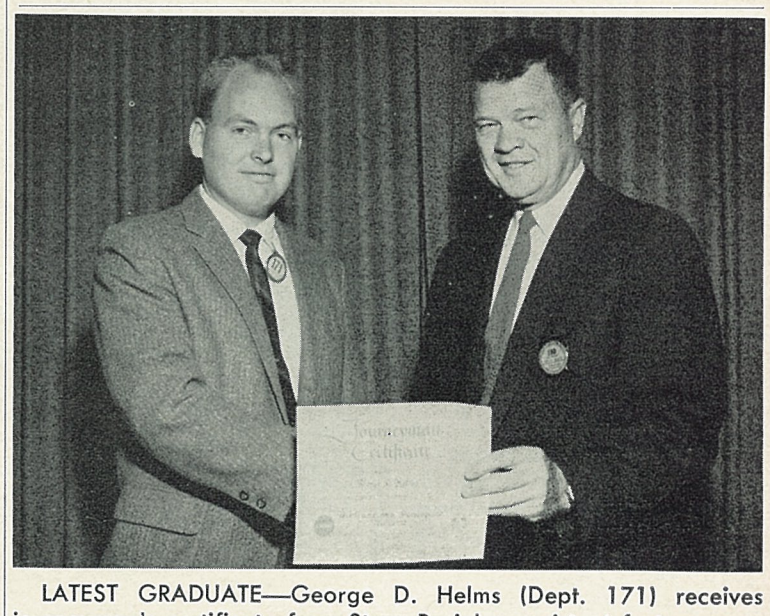
GD/Convair and GD/Electronics departments or groups wishing to enter teams are urged to contact Beyrer as soon as possible at ext. 1245, Plant 1.

Practice times and league schedules will be set up as soon as enough teams are registered.

Sports Car Racing Slated This Weekend

CRA Sports Car Club members are invited to attend races sponsored by San Diego Region of Sports Car Clubs of America and San Diego Junior Chamber of Commerce at Del Mar fairgrounds, April 28-29.

A crowd of 15,000 is expected for the two-day event with over 150 drivers from the western states competing. Points earned will count toward Pacific Coast Divisional Championships.



LATEST GRADUATE—George D. Helms (Dept. 171) receives journeyman's certificate from Steve Barinka, assistant factory manager, following completion of GD/Convair apprenticeship in airframe and power plant.

Riders Explore Back Country

Fifty CRA Riding Club members explored back country mountain trails in the Descanso area over the weekend of April 7-8.

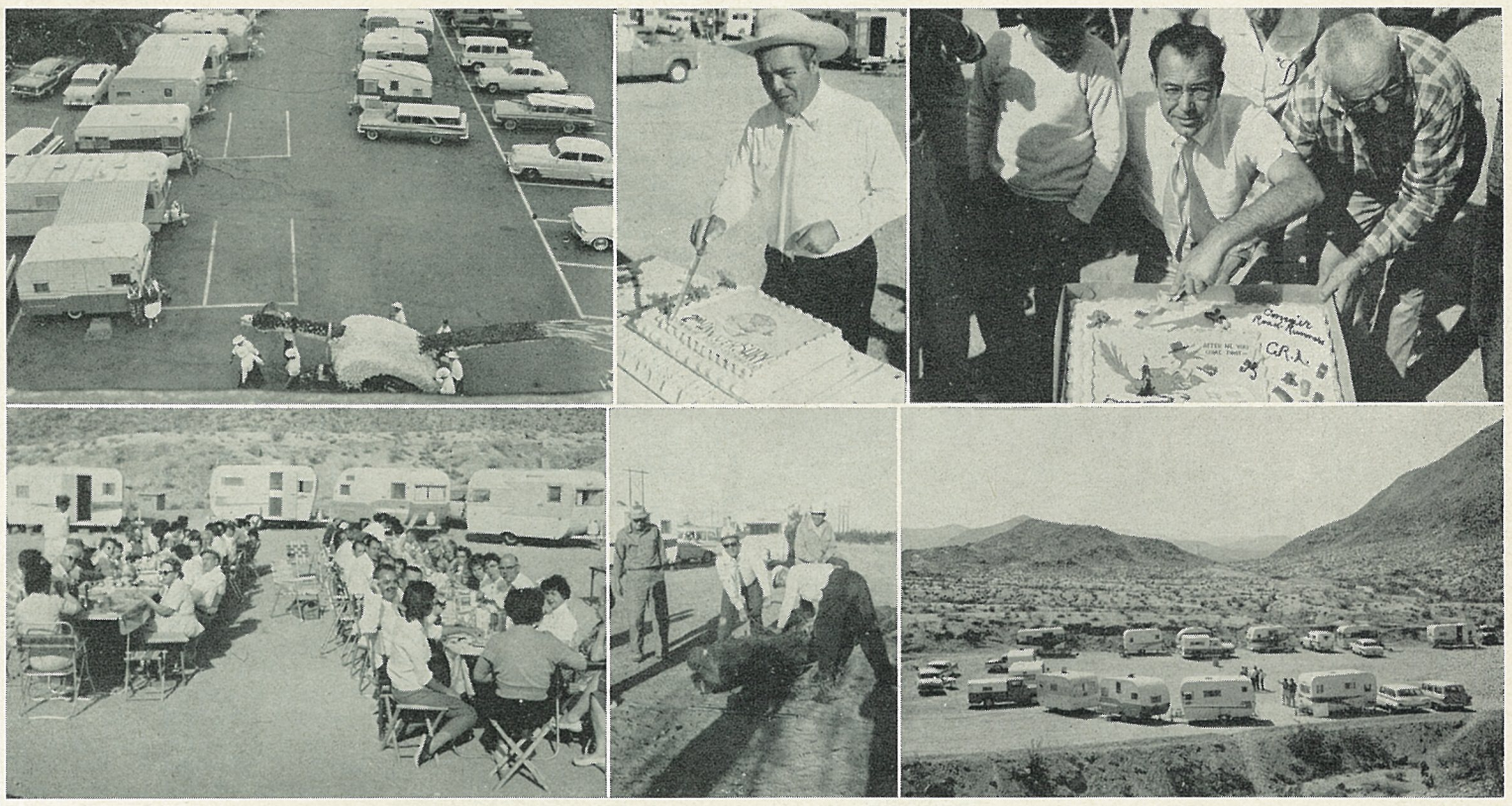
The originally-scheduled campout to Borrego Springs area for that weekend was cancelled when a sudden hot spell hit the desert, said club spokesmen.

Hosting the cooler mountain outing were Mr. and Mrs. Earl Allen of Descanso who provided stables and corrals for the horses. Allen acted as trail boss on the Saturday and Sunday rides which took the group back and forth across the Sweetwater River into the rolling hills on Saturday. Sunday the route was over the California Riding and Hiking trail to Green Valley Falls.

Saturday's ride was enlivened by a dunking of one of the members, Turner Albright, when his horse decided to take a bath in the river.

Steaks all around climaxed the day. Weary riders relaxed around the evening campfire while Bruce and Lou White showed color movies of parades in which the Color Guard and other Riding Club members had participated.

Next campout and trail ride is planned for May 19 and 20 with Roy Sims, Don Wescott, and Willie Mansir on the committee. For reservations call Sims at JU-2-8096.



ON THE ROAD—Highlights of Road Runners, CRA trailer group, during two years of existence show (top left) decorated chuck wagon, with group's vehicles in background at Annual Travel-Trailers of America, Border District, rally at Del Mar; (top center) President Harry Rush cutting second anniversary cake at Yaqui Pass last month; (top right) Harold Perkins, first prexy, and No. 1 birthday cake. Lower row (from left), jolly group sits down to feast on desert trip; log cutting for evening bonfire separates men from boys; traditional "wagon train" circle at overnight dry camp. Last desert outing of year hit 100-degree temperatures April 14-15.

Halfacre Doubles For Another Win in Pistol Competition

Another double win landed Jim Halfacre on top of both the .22-cal. Police Course and .22-cal. Short National in April 8 CRA Pistol Club competition.

Halfacre (Dept. 180) scored 289 out of a possible 300 to take the Police Course master class. His 282 was high in the Short National.

Bull's-eyes broke the tie between Ash Bishop (Dept. 401-5) and Carl Hornburg (Dept. 139) for second spot in the master. Hornburg's six bull's-eyes topped Bishop's five.

First in the expert class was W. G. Walker (Dept. 6) with 283. Ralph Picard of GD/Electronics Dept. 6 shot a 278 for second.

R. G. Lair (Dept. 401-2) was first in sharpshooter class, 245; Bill Mentlick (father in Dept. 401), second, 236; Marty Hudson (wife in Dept. 3), third, 229.

Vern Mardis (Dept. 34) trailed Halfacre to stand second in the Short National with a score of 278. Walker was third with 276 and Hornburg, fourth, with 274.

ROCKHOUNDS TREK FOR FOURTH YEAR

Convair Rockhounds signed the registration book at the annual Boron Gem and Mineral Show for the fourth time on their yearly trek to Mojave Desert region April 14-15.

About 15 CRA rock hunters found wild flowers in full bloom and plenty of petrified palm specimens waiting to be picked up at Castle Butte on Saturday. The next day they took off in a different direction to search for green opalite near Kramer Hills.

Margaret Dunivan will add secretary's duties to her office of treasurer, said George Goetzelman, club president. She replaces Carmelita Swarts who resigned as secretary to join her husband, Bern, now transferred to Electric Boat division. Swarts served as president during 1961.

Swim Night Tickets Are Now Available

GD/Convair and GD/Electronics people may pick up tickets for the CRA family swim night next Saturday (May 5) at employee services, Bldg. 32, Plant 1.

The monthly free swim night at Mission Beach Plunge is held first Saturday of each month, 7-9 p.m.

Maikish Wins With Net 64

More than 100 GD/Convair Management Club golfers competed March 31 at the annual club tournament, held at Bonita Valley Country Club.

C. R. Maikish won low net in the first flight with a 64, followed by E. D. Caldwell with 67, M. C. Val Dez with 68 and Will Weidenfeller at 69. In the second flight it was John Luckett, John Jodka and Bob Wilkinson with 71s, and Joe Famme with 73. Third flight results were Jack Hammer, 65, George Palma, 67, Lee Woll, 69, Craig Lent, 71. B. Campbell and Mel Doerr had 67s in the blind handicap and F. Kershaw and R. Knauer scored 68s.

Long drive prize went to Logan Jenkins, while Maikish collected "closest to the pin."

Russ Davis, tournament chairman, said merchandise awards are being mailed, but if they have not arrived, check him at ext. 495, Plant 2.

Exchange Tickets To Permit Saving

Exchange tickets for the May 8 home game of the Padres will save GD/Convair and GD/Electronics fans 75 cents on any seat, if they are picked up at employee services ahead of time.

The discount tickets, made available through Industrial Recreation Council, can be exchanged at Westgate Park box office on game night. With the tickets, reduced prices are $1.25 for box seats, and 75c for general admission.

Sports & Recreation

Bob Leib Shoots 133 Net To Capture Medal Golf

Top CRA medal play golfing honors of the year went to Robert Leib of GD/Convair plant engineering when he wound up the 36-hole Yater Memorial Trophy tourney with a low net of 133.

Henry Kobrick (Dept. 401) led the field after 18 holes the weekend of April 7-8 with a 63 net, but faltered the following weekend.

Leading the 0-13 division, Logan Jenkins of General Dynamics NEWS shot a 154 for first low gross. Dick Ramsdale (Dept. 160) trailed by two strokes for second low gross, 156.

Bill Matlock (Dept. 6) and Joe Catalino (Dept. 400) tied at 137 for low net in the 0-13 division and a three-way deadlock developed for second low net with Fred Wells, M. C. Val Dez (both Dept. 3) and Gene Pollpeter (Dept. 31) all scoring 141.

In the 14-19 division Jake Moore (Dept. 25) had first low gross, 168; Ralph Welch (Dept. 91), second low gross, 169.

First low net went to Hugh Wilkerson (Dept. 180), 138. Bill Whitley (Dept. 6), last year's Yater winner, tied with John Jodka (Dept. 91) for second low net with 139s.

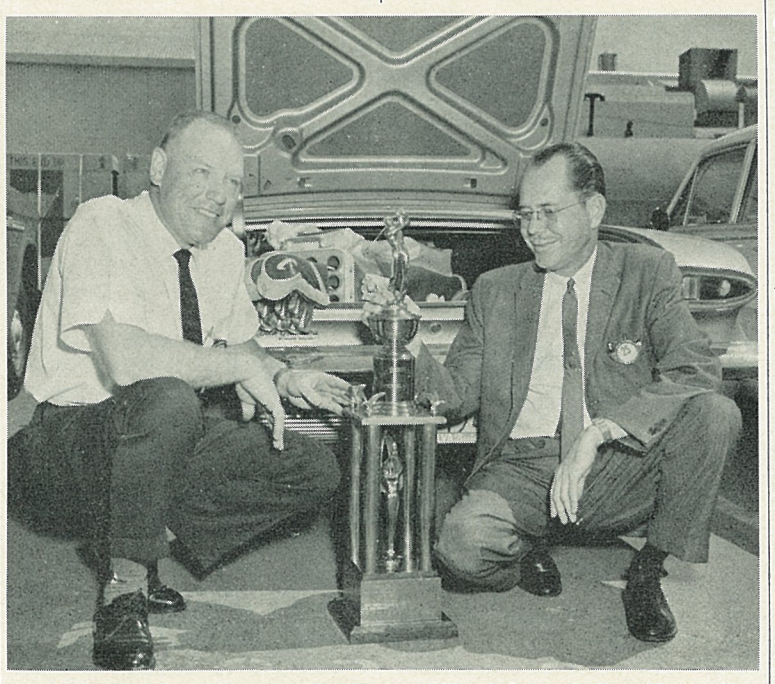
Bob Fagan (Dept. 6) was fourth low net with 143.

In the 20 and over division Pete Calta (Dept. 160) held first low gross, 178; Clinch Crocker (Dept. 91), second low gross, 184. D. Olney, (Dept. 401) with a 135, was first low net winner. B. Ditmar (Dept. 133) and Kobrick tied at 139 for second low net. Jinks Janssen (Dept. 14) was fourth low net, 140.

Out of the field of 120 golfers who reserved starting times for the first round at Fletcher Hills course, 93 showed on the first tee; and of these, only 64 played the final round.

"In these days of crowded golf courses it is an imposition on CRA to reserve tee times and then fail to show up," Commissioner Ken Wulfemeyer, reported.

"In order to continue to obtain tee times for future sweepstakes and tournaments, it is imperative that we maintain a good reputation for courtesy and punctuality."



GOLF KING—Robert Leib (Dept. 25), right, admires Yater Memorial Trophy unloaded from car of CRA Golf Commissioner Ken Wulfemeyer. Leib's department will get trophy for year by right of his performance in annual links tourney.

★ ★ ★

Linksmen! April 30 Deadline For IRC

Golfers at GD/Convair and GD/Electronics, with established handicaps, must sign before April 30 to play in the annual IRC golf tourney next month, said CRA Commissioner Ken Wulfemeyer.

The match play event will be May 12-13, 19-20 at Torrey Pines course, and May 12 only, on Balboa Park course.

Entry fee of $3.50 must be paid upon registration at Wulfemeyer's office, employee services, Bldg. 32, Plant 1. Call ext. 1705 for information.

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No. 7 Iron Sinks Ace For GD/E Linksman

Dick Davis of General Dynamics/Electronics is latest to join the select "Hole-in-One" clan.

Davis, who is in GD/E quality assurance at San Diego, made his ace April 8 on the 147-yd. first hole of Singing Hills west course. He used a No. 7 iron.

Witnesses were others of his foursome, Joe Pearl, Astro Dept. 759; Tim Miller, GD/Convair Dept. 160; Roy La Rue, GD/Convair Dept. 216.

Trailer Group Now 50 Strong

Road Runners, CRA trailer group, now holds the title of largest industrial trailer club in the San Diego area.

The popular activity, which has grown from 15 to 50 members in its two years of existence, is second largest such club in San Diego County.

Members and families, usually 100 strong, wheel campers, trailers, vans from desert to mountains to sea coast to taste life in the open at least once a month.

Since first trip to Yaqui Pass in the Borrego desert area March, 1960, they have visited Pamo Valley near Ramona, Live Oak County Park at Fallbrook, La Costa Downs Beach State Park, Laguna Public Camp, Burnt Rancheria Public Camp, Hulburd's Grove, Lake Henshaw, Blair Valley, Lower Otay Lake County Park, Painted Gorge in Imperial County, Drop Four on All American Canal.

Extra outings for the year have seen bonus trips to Western Circle Ranch, Ramona, two outings each month through the last summer season, and a weekend at the annual Border District Rally of Travel Trailer Clubs of America at Del Mar. There the CRA group won second prize for costuming and delighted the hundreds attending with the fanciful Road Runner float.

Holiday gatherings included a Christmas party at CRA Gillespie Field Clubhouse and a long five-day New Year's trek to Hot Mineral Spa, Imperial County.

Around 20 vehicles caravaned to Peg Leg Smith's Mine Monument near Borrego April 14-15 for the last desert trip until cooler weather next fall. They were swept with hot winds and dust storms in 105-degree temperatures.

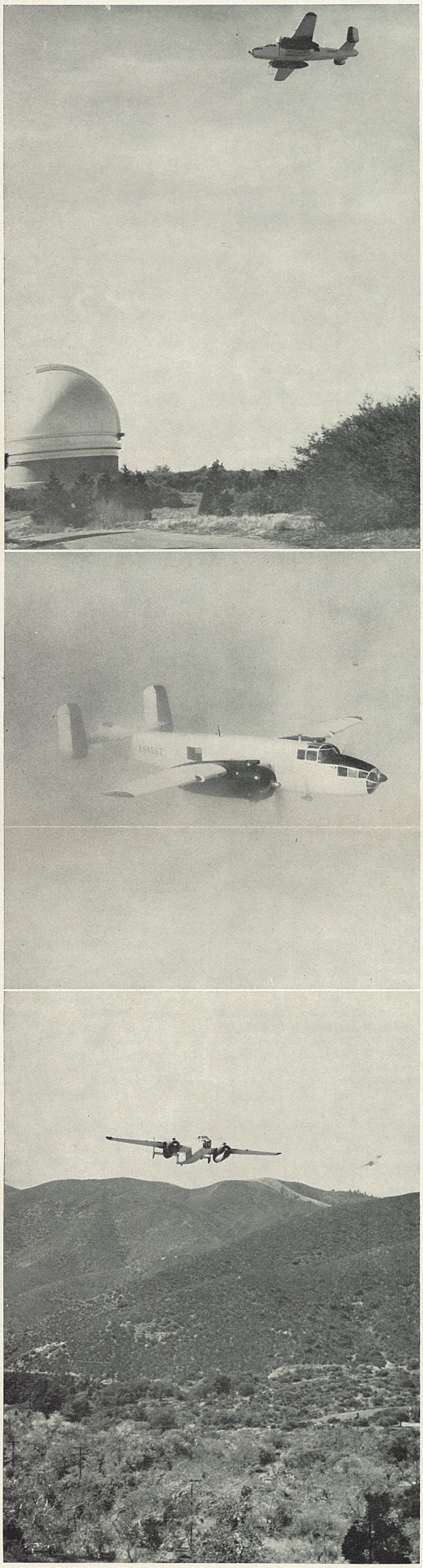
Staying closer to home, plans now are under way for a weekend at Live Oak County Park the middle of May, said Ralph East, who took over as commissioner early this year.

Present officers of the footloose group are Harry Rush, president; George Hurley, vice president; Iris Scholl, secretary; Carl Cooper, treasurer. Judicial board members are Roland Lathrum, Ed Miner, Hal Perkins, Lowell Ward, and Ted Weinberg.

Anyone in GD/Convair or GD/Electronics is invited to join the Road Runners' trips.

RADIO CLUB PLANS THURSDAY MEETING

Radio Club members will hold their regular meeting tomorrow (April 26), 8 p.m., in the Harbor Drive headquarters. CRA Commissioner Jim Lack reminds all GD/Electronics people that they are eligible to take an active part.



SAFE FLYING—Terrain Avoidance Radar system, developed by General Dynamics/Electronics at San Diego, gets workout in leased B-25 during flight tests through Laguna Mountains (top) with Palomar Observatory in foreground, in blinding cloud cover (center), and over rugged terrain (lower). Warning system allows low-flying craft to maintain constant distance above obstacles beneath. It is believed to have considerable potential both for military as well as commercial aircraft.

GD/Astro Housewife Wins $1,000 Award

WARREN AFB — More fortunate than most housewives at the supermarket, Mrs. Shirley Seeley, wife of site administration supervisor O. C. Seeley, Dept. 351-7, here, made a profit on a recent shopping trip.

Mrs. Seeley was winner of $1,000, the largest of several cash prizes awarded recently by a Cheyenne supermarket.

TRIGA Reactor Power Upped By Four Times

The new TRIGA Mark III, a "pulsing" nuclear reactor four times more powerful than the Mark I and II, has been announced by General Dynamics Corporation.

Routine operation at 1,000 kilowatts and controlled, split-second pulsing to a peak level of 1,000,000 kw are available in the self-regulating Mark III made by General Atomic Division at San Diego. For comparison, the TRIGA Mark I below-ground and Mark II above-ground models both have 250-kw steady-state and 250,000-kw pulsing power levels.

During the few thousandths of a second that the new Mark III is pulsed to its peak of 1,000,000 thermal kilowatts, the reactor's rate of energy output is equivalent to the electric power used by a city of 500,000 population. The TRIGA automatically cuts itself back at maximum levels.

New opportunities are opened for basic research in the physical and biological sciences and for applied research and testing in medicine, agriculture, industry and space technology by the high density of neutron and gamma radiations produced in the nuclear core of the TRIGA Mark III, combined with its pulsing capability and additional experimental facilities.

'Dynamic America' Sales Continuing

General Dynamics employees may still purchase copies of "Dynamic America," story of the Corporation, at special discount prices.

Employee services at all divisions have a limited number yet available at the reduced price of $7.50 for General Dynamics purchasers. Regular retail price is $20.

Orders from off-site facilities will be forwarded to main division offices.

The profusely-illustrated volume recounts the history of General Dynamics in correlation with the country's industrial progress.

★ ★ ★

Dynamic America Copies Presented

WALKER AFB — GD/Astro operations has presented copies of "Dynamic America" to four Roswell, N. M., area libraries for National Library Week.

Receiving the publication were the Roswell High School library, St. Peters, New Mexico Military Institute and Walker AFB library. Previously, Astro Wives Club presented a copy to the Carnegie library.

California Returns To Daylight Saving

General Dynamics people in California will turn their clocks ahead an hour this Sunday (April 29), when the state goes on Daylight Saving Time.

According to California state law the summer time goes into effect the last Sunday in April of each year.

The time change affects General Dynamics divisions in San Diego, Pomona, and all off-site locations within California.

Big Hong Kong Welcome Greets Cathay's 880-M

A toast to Cathay Pacific Airways' new Convair 880-M wished her "happiness" on arrival at Hong Kong the first of this month.

"May she be happy, may she prosper, and those who own and fly her," proposed W. C. G. Knowles, chairman of Cathay Pacific, as he welcomed official guests aboard.

Eighteen captains, first officers, and flight engineers, who had been training at General Dynamics/Convair in San Diego, were on board on the delivery flight. Capt. Dave Smith, Cathay Pacific's flight superintendent, was at the controls.

Also on the flight were A. E. Clifford of the Hong Kong Air Registration Board, and D. S. Delaney, Cathay's assistant chief engineer, who had been at GD/Convair as the airline's representative. U. S. Johnson and C. J. Falkenthal of GD/Convair production flight accompanied the plane.

They will remain with the airline to help with crew training for a few weeks.

R. K. Hall, GD/Convair field service supervisor, along on the transocean trip, reported a pleasant, satisfactory flight all the way from San Diego to Honolulu, Wake Island, Guam, and on to Hong Kong, flying over Northern Luzon en route.

"Hong Kong was having a bit of rain and low clouds, but the approach was right in the slot and as perfect as the landing. It had to be," he wrote back, "for Cathay Pacific had turned out en masse to welcome us. Everyone was lined up in neat rows and at attention when the brakes went on with only a fraction of a minute to spare before 12:00 (April 2, Hong Kong time). Perfect timing and an impressive arrival, and all the more remarkable since this date and time had been selected several months previously."

The 2,600 lbs. of woodworking machinery to set up a complete work shop, which had been ferried for CARE aboard the 880-M, was presented to Tsun Wan Secondary Modern School as a gift from the people of America.

Cathay Pacific's Convair jetliner went into service the week after its arrival (April 11). Initially, it will operate between Singapore, Bangkok, Hong Kong, Manila, Taipei, and Tokyo.

American Airlines Pilots Praise 990

American Airlines pilots flying the 990 Astrojet, now in sixth week of service, have become "avid fans" of the Convair-built jetliner.

They like the way it feels in the air and the way it performs, according to a recent article in American Airlines company publication.

Altogether, the 990 has "surpassed fondest hopes of everyone connected with the 990 program at AA," since it went into passenger service over American's domestic routes in mid-March.



WELCOME—Ducan R. Y. Bluck, Cathay Pacific's commercial manager, steps off Cathay Pacific's Convair 880-M following inspection of newly-delivered jetliner on its arrival at Kai Tak Airport, Hong Kong.

Dept. Asst. Secy. Sits in at GD/FW On Value Engineering Seminar

James N. Davis, Deputy Assistant Secretary of Defense, was "favorably impressed" with value engineering efforts at GD/Fort Worth following a recent half-day orientation.

Davis sat in on a "live" value engineering seminar and was later briefed by top management.

He spoke that evening to members of Dallas-Fort Worth Chapter of Society of American Value Engineers.

Discussed at the GD/Fort Worth briefing were the company's vendor value control program, including the cost-target system in which estimated cost is applied at the design level.

Frank W. Davis, president, and M. L. Hicks, vice president-legal and procurement, made the main presentations.

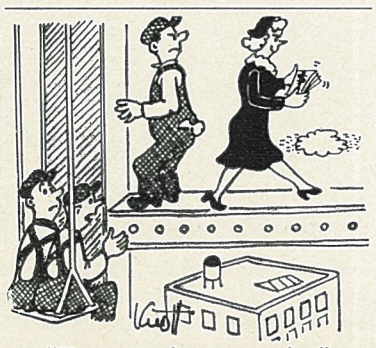
Davis reportedly saw "some things in the GD/Fort Worth value engineering program I had not expected to see in industry for the next five to seven years.

"You can expect stronger emphasis on value engineering in the future," the assistant secretary told members of SAVE.

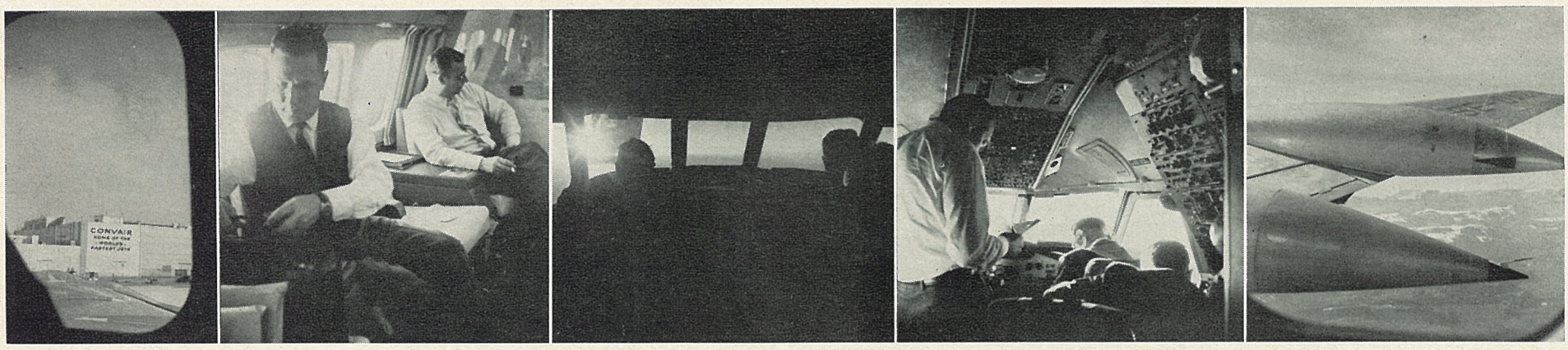
"The Defense Department is at this moment modernizing its armed services procurement regulations, liberalizing the value engineering provisions and motivating the kind of contracts in which these incentives can be included."

He urged all industry to take a "less entrenched point of view" and search for "changes which will extend life or reduce labor, materials, and therefore cost."

Davis said a value engineering manual for use throughout defense and industry is about to be prepared.



"She never misses a pay day."



TRIP ABROAD—When Swissair Coronado 990 flew San Diego to Zurich last month, among those on board was GD/Convair Cameraman Pete Autio who took these shots. From left: last look at GD/Convair plant; crewmen take a break; sunrise over coast of Ireland; crew intent on cockpit instruments over the Alps. Convair airliner made trip in less than 12 hours flight time. Autio is on leave of absence and will travel in Germany and Finland.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 10 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, May 9, 1962

GD/Convair Wins Order For SATS Landing Mats

General Dynamics/Convair last week received a $2,700,000 production contract to build landing mats for use in portable landing fields serving Marine jet fighter and close support aircraft.

A fully-automated assembly line will be installed at San Diego, J. H. Famme, GD/Convair president, said. The contract was awarded by the Naval Air Material Center, Philadelphia, and work on the initial production will extend through November, 1962.

"The contract is a direct result of our continuing efforts to diversify. It demonstrates our capability to perform tasks in areas other than aircraft production. Our experience with advanced structural techniques was an important factor in the award of the contract," Famme said.

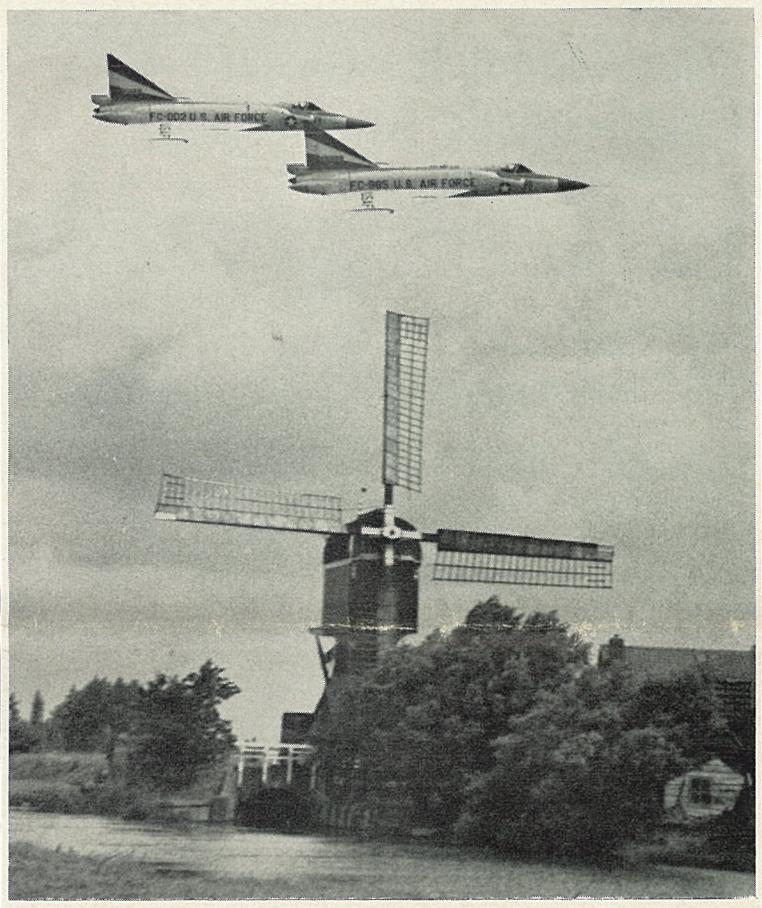
"There is an excellent potential for follow-on business here. As long as a threat of limited warfare exists, more portable landing fields will be needed to extend our country's tactical air arm," Famme added.

The contract is the third that GD/Convair has been awarded for the SATS (Small Airfield for Tactical Support) Landing Matting program.

Under the initial study contract engineers considered a variety of materials that would be durable enough to withstand arrested landing and catapult takeoffs of the latest-type Marine jet aircraft.

C. L. Jackson, SATS project manager, said studies showed that panels with cores of wood serve the purpose best because of their light weight, low cost and greater impact resistance.

(Continued on Page 2)



WINDMILL TILTING — Convair-built F-102s wing over typical Holland scene on mission from Camp Amsterdam, near Soesterberg, where they have been based with 32nd Fighter-Interceptor Squadron since early last year. GD/Convair field service reps with 32nd are J. E. Dodge and H. R. Vinz.

Pilot Who Bailed Out at 50,000 ft. In Storm Will Address Club May 16

Lt. Col. W. H. Rankin, USMC, the man "who rode the thunder" and authored a book by that title, will describe his experience to General Dynamics/Convair Management Club members and their ladies May 16.

The dinner meeting will be in the Caribbean Room, El Cortez Hotel. Social hour starts at 6 p.m. with dinner following at 6:30. Tickets at $2.50 each now are available at regular outlets.

Colonel Rankin will tell about his ejection from an aircraft at 50,000 feet into a thunderstorm in 1959. The jump is the highest recorded without a pressure suit. At present, Colonel Rankin is on the staff at the San Diego Marine Corps Recruit Depot.

In addition, other features of the May meeting will disclose new officers and board of control members. Mug of the Year will be announced along with the usual MacSave-it award, raffle, and special entertainment.

Sponsoring the ladies' night are Dept. 31, development and modification, and Plant 2 fabrication with N. R. Keough, general chairman.



MARK THAT CROSS!—Al Fink (left) and Joe Williamson, both in the running for GD/Convair Management Club president, use a little "gentle" persuasion on M. C. Val Dez as they wind up campaign today (May 9), deadline for returning ballots.

Con-Trib Votes $100 For Vehicle Repair

United Cerebral Palsy Foundation was voted $100 for repairs on the organization's station wagon at last meeting of GD/Convair Employees' Con-Trib-Club Committee.

In new business, members gave tentative approval to a $1,000 donation to help Children's Dental Health Association meet its current budget.

Roger Lewis Maps Future Of Dynamics

Expressing faith in the future of General Dynamics Corporation and promising vigorous pursuit of profitable business, Roger Lewis, president and chief executive officer, told shareowners last month that corporate losses have now been arrested.

Lewis, who was subsequently elected chairman of the Board of Directors, in addition to president, reported that sales for the first quarter of 1962 totaled $525 million and consolidated net earnings were $10,736,000.

"We are trying to improve these results," he continued. "This will be done product by product, division by division."

Since joining Dynamics Feb. 1 as a director (he became president Feb. 22), Lewis said he had visited all divisions and met the key people.

"I have been tremendously impressed with the human resources and technical capability, as well as the facilities. These are the essentials of a strong company today. I believe General Dynamics can and will be even stronger in the future."

Lewis was elected chairman of the board April 27 at an organization meeting of directors following the annual shareowner meeting April 26 in Dover, Del. At the same time, Earl D. Johnson was re-elected board vice chairman and Henry Crown was re-elected chairman of the executive committee.

Following is a partial text of Lewis' remarks to shareowners at the Dover meeting:

"As you know, this company has been built on a philosophy of diversity and balance among commercial operations, advanced research, and defense production, and upon even further diversity within the area of defense itself," Lewis said.

"This balance of operations is extremely important to us. Our commercial operations are stable and currently profitable, and not limited by governmental restrictions on earnings. Profits permitted by the services on defense procurement, on the other hand, have been consistently lower year by year.

"This factor, however, may change. There seems to be a trend nowadays away from the old standard of cost-plus contracts toward incentive contracts, with greater rewards for good performance. This is a trend that we welcome.

"The production of weapon systems in our major defense divisions is in its very nature cyclical. Neither for a division nor for the company as a whole, is it always possible to

(Continued on Page 3)

Vendors Briefed On Value Study

"Value control is a state of mind," said President J. H. Famme as he welcomed 36 military and vendor representatives to the first value control seminar of its kind at General Dynamics/Convair.

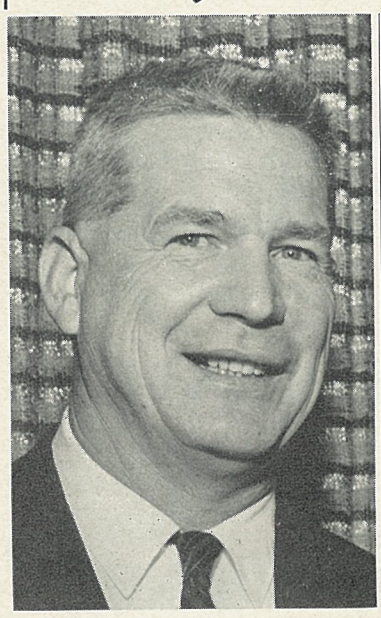
"Our value control policy is to consider the entire concept of an idea, product, or system from 'cradle to the grave'," he went on to explain at the opening session last Tuesday.

(Continued on Page 2)



FIRST OF KIND—Representatives are welcomed by GD/Convair President J. H. Famme at first value control seminar conducted especially for military and vendors.

Log Book Entries



LONG SERVICE—H. W. Meyers, GD/Convair superintendent of tool manufacturing, joined a very select group of veterans last month when he received his 35-year service emblem from GD/Convair President J. H. Famme.

Service Emblems

CONVAIR

Service emblems due during the period May 1 through May 15.

Twenty-five-year: Dept. 6-300, W. M. Thomas; Dept. 48, W. K. Baker, G. E. Forbes, B. C. Piland; Dept. 100, N. P. Pearson.

Twenty-year: Dept. 2-4, Patricia J. Jones; Dept. 6, Mildred M. Fisher, H. D. Heltzel; Dept. 48, L. J. Kaiser, Harold Siegenfield; Dept. 91, L. G. Facka; Dept. 115, F. E. Slayton; Dept. 133, J. W. Bauer, A. G. McCluskey.

Fifteen-year: Dept. 31, Paul Stachwick; Dept. 48, J. E. Dearmin, L. B. Muzzy; Dept. 101, G. N. Labeau; Dept. 115, C. E. McGowan; Dept. 133, J. P. Hannibal, Akira Takeshita; Dept. 140, C. L. Tipton; Dept. 149, M. A. Romero; Dept. 171, R. M. Chesebro; Dept. 180, J. L. Jaussaud, R. G. Russ; Dept. 216, Beulah H. Nichols; Dept. 292-1, David Zatarian; Dept. 401-5, Hidetoshi Akiyama.

Ten-year: Dept. 3-1, H. R. Blevins; Dept. 6, J. A. Brown, F. T. Ferguson, G. C. Haag, C. J. Tanner; Dept. 15, L. C. Reed; Dept. 16-7, Comfort T. Miller; Dept. 24, Goldie O. Coates, S. L. Treadway; Dept. 25-1, C. J. Di Stefano; Dept. 28, J. T. Berthelet; Dept. 34-1, J. E. Murphy; Dept. 115, Gertrude W. Gordon; Dept. 148, J. R. Jackson; Dept. 160, Cleveland Jackson; Dept. 180, J. L. Cameron; Dept. 192, O. H. Fritz, S. E. McElyea, M. A. Wiltse; Dept. 201, Rilla A. Montgomery; Dept. 215, P. M. Kaufenberg, O. G. Moreno; Dept. 400-3, Toshio Kuba; Dept. 401, Mike Divjak, W. T. Massey.

GD/ELECTRONICS

Fifteen-year: Dept. 6-5107, Thula E. Bellmyer.

Ten-year: Dept. 5-5606, D. W. Foster.

Promotions

GD/ELECTRONICS

Promotions to or within supervision effective April 23.

Dept. 3, Reliability & Quality Control: To manager of quality control, H. J. Stuart.

Dept. 4, Customer Requirements: To senior requirements engineer, F. L. Hodgins.

Dept. 5, Engineering: To electronics group engineer, L. M. Barnes.

Rider-Driver

CONVAIR

RIDES WANTED — 7:30 a.m.-4:15 p.m. Vicinity 68th & University to Plant 1. Roma Kimbro, JU-3-0424, or plant ext. 2775.

7:30 a.m.-4:15 p.m. Chula Vista to Plant 1. S. Ohl, HA-0-2710, or plant ext. 484.

7:30 a.m.-4:15 p.m. 6631 Clara Lee Ave., Allied Gardens to Plant 1. Gwen Galligan, JU-2-0271, or plant ext. 484.

Personals

CONVAIR

I would like to take this opportunity to thank all of my dear friends at GD/Convair who contributed to the Mutual Fund Investment for my baby, Robert Haas. It is indeed a thoughtful tribute to my beloved Frank (Dept. 6), who passed away Oct. 5, 1961. Your kindness is deeply appreciated.

Mrs. S. G. Frank Haas Jr.

* * *

We wish to acknowledge with sincere thanks your kind and thoughtful expressions of sympathy and beautiful flowers.

Mrs. Thomas F. Smith.

Retirements

CONVAIR

BALTZELL—Earl J., Dept. 3-1. Seniority date Feb. 22, 1951, retirement effective April 20, 1962.

BONDERSON—Arthur W., Dept. 25-6. Seniority date June 28, 1940, retirement effective April 27, 1962.

FASSLER—Adolph E., Dept. 25-1. Seniority date Sept. 20, 1942, retirement effective April 27, 1962.

GEYGAN—Daniel A., Dept. 31. Seniority date Feb. 8, 1951, retirement effective April 27, 1962.

HOXSEY—Stacey A., Dept. 400-6. Seniority date Jan. 9, 1952, retirement effective April 30, 1962.

HUNT—Arnold R., Dept. 115. Seniority date Jan. 30, 1958, retirement effective April 27, 1962.

LAKIN—Frances S., Dept. 280. Seniority date June 17, 1947, retirement effective April 27, 1962.

MAHAN—John T., Dept. 48-12. Seniority date June 7, 1951, retirement effective April 20, 1962.

McGOWAN—Marie D., Dept. 400-4. Seniority date Sept. 30, 1940, retirement effective April 27, 1962.

MONTEIRO—Joseph L., Dept. 14-8. Seniority date May 9, 1955, retirement effective April 27, 1962.

MULROONEY—Thomas S., Dept. 145. Seniority date Sept. 25, 1947, retirement effective April 30, 1962.

Births

CONVAIR

ARCHAMBAULT—Daughter, Marla, 7 lbs., born Jan. 17 to Mr. and Mrs. G. E. Archambault, Dept. 16-4.

WEBER—Daughter, Pamela Sherry, 7 lbs., 6 oz., born April 23 to Mr. and Mrs. Jack D. Weber, Dept. 6.

Deaths

CONVAIR

CAMPBELL—Paul, Dept. 401-5. Died May 2. Survivors include wife, Ella.

LESINSKI—Frank, Dept. 120. Died April 26. Survived by wife, Anna.

PETERSEN—Jack H., Dept. 99. Died April 27. Survived by wife, Esther M. Petersen; son, Jack H. Petersen; daughter, Mrs. Janice Niebauer; one brother, three sisters, four grandchildren.

ROMINGER—Adam E., Dept. 31. Died April 20. Survived by wife, Marcella.

DR. F. M. AMARAL, CHIEF PHYSICIAN, DIES SUDDENLY

Dr. Francis M. Amaral, chief physician at General Dynamics/Convair since 1945, died May 5 at a San Diego hospital following a heart attack that afternoon.

Services were to be held in St. Charles Borromeo Catholic Church. The family has asked that contributions be made to the Heart Fund.



Dr. Amaral

Dr. Amaral was born in Pico, Azores Islands. He was graduated from Boston University Medical School, Boston, Mass. He joined GD/Convair as staff physician in 1942.

He was an examiner for the Federal Aviation Agency, member of the County Medical Society and the American Medical Association. He was a fellow of the Industrial Medical Association, the Aerospace Medical Association, Civil Aviation Medical Society, American College of Chest Physicians, and Airline Directors' Medical Association.

He is survived by his wife, Palmyra; his father, Joao M. Amaral, 95, of Pico; and a niece, Mrs. Evelyn Goulart of San Diego.

SECOND SHIFT OFFICE CLOSED

Employment office at General Dynamics/Convair Plant 1 is no longer open on second shift. The office, located in Bldg. 16, now is open only from 7 a.m. to 5 p.m., Monday through Friday.

General Dynamics NEWS

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Convair Editorial Offices, Bldg. 32, Plant 1, GD/Convair, Mail Zone 1-320, P.O. Box 1950, San Diego 12, Calif. Telephone CYpress 6-6611, ext. 1071. Staff: Grayce Fath, Helen Pemberton, Gil McCoy.

GD/Electronics (San Diego) news contacts: Helen Wood, CY-8-8331, ext. 15, 1895 Hancock St.; Betty Freeby, CY-8-4641, ext. 1377, Plant 1, Bldg. 51.

Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: James Combs Jr., editor; Carol Colbert. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

Affiliated editions of General Dynamics NEWS are published in Rochester, N. Y., covering GD/Electronics and GD/Telecommunication, editorial offices, 100 Carlson Road, HUbbard 2-2200, ext. 2555, Gordon Morison, editor.



SEMINAR NO. 5—Graduates of fifth in GD/Convair's continuing series of value control seminars pose beside American Airlines 990 at conclusion of cost vs. value training. Lower photo shows GD/Convair participants; upper group is from GD/Electronics.

Value Control Teams Study Plant Methods, New Business

Plant methods and designs under consideration for new business came under close scrutiny at the fifth value control seminar ending last month at General Dynamics/Convair.

Closer control of materials going into surplus, screening of material sent to the salvage yard to reclaim valuable articles which can save the division thousands of dollars a year were recommendations of two teams.

A value assurance analysis was made on the C-141 vertical stabilizer ladder to reduce not only costs but also the weight.

Another design study on aircraft cargo pallets showed that the cost could be cut drastically and method improved. Change in trouble-shooting techniques on the flight line would save time and money in flight time. Another team recommended retaining present flight test instrumentation to increase the division's technical capability in bids for new business.

Suggestion that several tools be incorporated in one would achieve large savings in current programs. New method of flat part fabrication presented by one team will be investigated for practicability.

Two GD/Electronics teams surveyed fabrication of receiving and transmitting modulator case and video amplifier to come up with potential savings in the thousands of dollars by redesign and reprogramming of operations.

Plans are under way for setting up short indoctrination seminars in the near future, said H. P. Williams, value control manager, to spread the word to the greatest number possible throughout the entire division.

Team projects, members, department numbers, project leaders were:

No. 1. C-141 Vertical Stabilizer Ladder—F. J. Banks (6), R. B. Bergan (6), E. Catton Jr. (128), E. D. Green (23), L. E. Roth (139). Project leader, W. J. Wood.

No. 2. Aircraft Cargo Pallets—W. Bryn (34, J. Drozdz (133), J. C. Hoover (6), N. Janusz (23), J. G. Willis (6). Project leader, Wood.

No. 3. Salvage Yard-Disposal—T. A. Anderson (14), A. Angus (28), A. D. Bush (6), R. A. Davis (223), J. F. Dzialowy (6). Project leader, Joe Freeman.

No. 4. Study of Trouble-Shooting Techniques on Flight Line—W. C. Braley (6), L. A. Davis (34), M. C. Hangen (23), F. A. Pokorny (6), G. W. Turner (48). Project leader, Freeman.

No. 5. Surplus and Obsolescence—D. S. Arnott (43), J. R. Benedict (140), E. W. Manning (24), T. W. Ochodnicky (6), E. C. Palmer (6). Project leader, H. E. Kobrich.

No. 6. Disposition of Flight Test Instrumentation—B. A. Clemmens (31), W. M. LaFleur (6), R. M. Montgomery (21), V. J. Schack (6), J. Wazny (23). Project leader, Kobrich.

No. 7. Tooling Trim Shell—G. D. Carroll (115), B. R. Hatcher (6), J. F. Kelley (29), G. Mihelsic (6), S. J. Williams (400). Project leader, R. L. Williams.

No. 8. Tooling Profiling Tools—W. A. Floyd (6), W. A. Heitzman (6), V. H. Logan (215), R. W. Verdon (401), S. Weiner (27). Project leader, Williams.

GD/Electronics teams were headed by G. D. Patrick as project leader. They were:

No. 1. Fabrication of Receiving and Transmitting Modulator Case—T. R. Fowler (3), D. J. Froemke (5), B. J. Jeffries (8), B. H. Johnston (Plant 2), P. E. McCourt (5).

No. 2. Video Amplifier—R. A. Gilmore (2), H. D. Palmer (6), J. J. Rogers (5), J. W. Wonner (5).

Vendors Urged To Join Value Control Fight

(Continued from Page 1)

Using the analogy of a caterpillar moving in an endless circle, he said, "We are striving to eliminate force of habit, instinct, tradition—or whatever you may call it—blindly followed and going no place!"

Opening May 1 and continuing through three days, Army delegates from Los Angeles Ordnance District, Navy delegates from Bureau of Naval Weapons Representative, and North Island Naval Air Station joined with men from over a dozen vendor companies to receive training in the techniques of value engineering analysis through GD/Convair's value control program.

Arranged by H. P. Williams, GD/Convair value control manager, the seminar condensed material given in the current 40-hour seminars.

W. R. Bruce, director of materials, re-emphasized the importance of value control as he pointed out the need for "nation-wide application to help win the economic battle."

He asked for "whole-hearted cooperation from suppliers in the fight to overcome obsolete methods and to put new ideas into effect."

Other division speakers explaining principles of value control and how it is best activated were Williams, W. H. Goggin, G. J. Bartolomei, B. W. Kahla, D. L. Macey, J. R. Spurgeon, C. S. Brandt, S. W. Swenson, C. A. Ives.

Macey, H. A. Billings, W. D. Lavis of GD/Convair and P. E. McCourt of GD/Electronics acted as project leaders for the eight teams during actual work projects.

Four GD/Convair engineers, Ted Draper, G. W. Whaley, M. R. Smith, J. A. Howland, participated as team members.

Companies and representatives were: Cleveland Pneumatic Tool Co—Ed Drensky, Ralph Richardson, Hugo Wesp. Hydro-Aire Co.—Jack Barnes, Donald Hesseldenz, Clarence Lenox, Airite Products—Paul Hildebrand. Western Gear Corp.—Leo Hunziker, L. E. Morgan. American Precision Gear—John F. Betts, Robert Regan. Waveguide, Inc.—Harry Criner. Gilco, Inc.—John Reese. Lear, Inc.—Henry W. Upton. Los Angeles Standard Rubber—Ed Arsenault, W. Gibson, Ben Gruver. Chem Tronics—Robert Baxter, Daniel Brimm. Lionel-Pacific, Inc.—E. J. Szkaradek. Ryan Aeronautical Co.—R. D. Allen, Merle Barnhart, Fred Therriault, C. Webster, K. D. Hawkins. Solar—Kurt Shuppisser, G. N. Ferguson.

Army delegates were Frank Sheridan, Howard Hyatt, Carl Hittinger, Phil Rice, Milan Vucurevich, John L. Farnsworth from Los Angeles Ordnance District; Ben Grodona, R. B. East, BUWEPS-REP; Joe Rezin, North Island NAS, represented the Navy.

GD/Convair Awarded Production Contract To Build Landing Mats for Marine Planes

(Continued from Page 1)

The GD/Convair-designed panel can be pictured as a four-foot by four-foot "sandwich." The "meat" of the sandwich is the wooden core. It is between "slices" of aluminum skin. The four sides of the sandwich are notched so that they can be inter-connected by small locking bars.

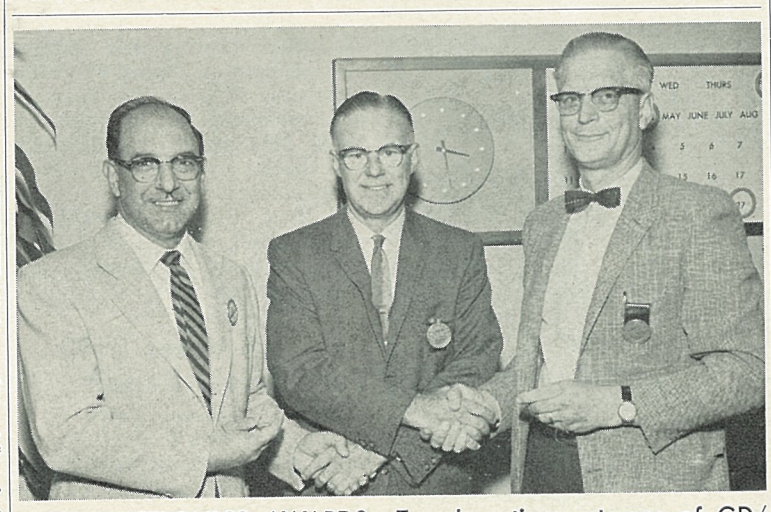
The panels manufactured by GD/Convair will be of two types. A one-inch thick panel will be produced for taxiways and airplane parking areas. The runway itself will be made of panels that are one-and-one-fourth-inch thick.

Under the production contract GD/Convair will manufacture approximately 450,000 sq. ft. of matting, or more than 27,000 panels. The typical portable airfield has a runway 2,000 ft. long and 71 ft. wide. About 280,000 sq. ft. of panels are required for supporting taxiways and parkways.

According to Jackson, the matting is designed so that an entire field can be laid and ready for use in less than three days. Within that time an entire "instant airfield" must be finished, including arresting gear, catapult, lights, portable mirror landing aid, control tower and other supporting equipment.

A contract related to the SATS program was awarded to GD/Convair on March 29, 1962. Under it, company engineers are studying the feasibility of a design concept for a high-energy, land-based type catapult system.

The Marines will use SATS fields to provide a vital extension to their close support capability so that airplanes can be used as tactical weapons in support of infantry.



GD/ELECTRONICS AWARDS—Two long-time veterans of GD/Electronics received service emblems recently from General Manager William Lawrence (center). At left is J. A. Pascarella, production engineer at GD/E Plant 2, with 20-yr. emblem; (far right) R. E. Lawson, Plant 2 factory superintendent, receiving 25-yr. service pin.

Roger Lewis Maps Future At Shareholder Meeting

(Continued from Page 1)

have major new projects phasing in at an exact parallel to the phasing out of an old project.

"We have a substantial backlog of orders right now, amounting to $1.5 billion. By and large, our sales in most divisions for the balance of the year will remain at current levels. However, because of the phase out of certain of our major programs, particularly the B-58, I would estimate that our total sales for 1962 may be as much as 10 per cent below the 1961 peak.

"We are, of course, bidding on a number of new projects. Most of these are classified, but some are potentially very large.

"In the defense procurement area itself, traditional outlines are changing. There is a trend toward fewer numbers, but greater complexity, of end products. Future contracts may be smaller in terms of units, but the dollar amounts involved may be even larger, and the scientific and technical requirements will be much more demanding.

"Our concern is with products —the sales of our current products, the development of new ones to follow immediately, and particularly important, the development of products for the long-range future. We must be sure as we look down the road 10 to 15 years from now that we have good, substantial business coming up.



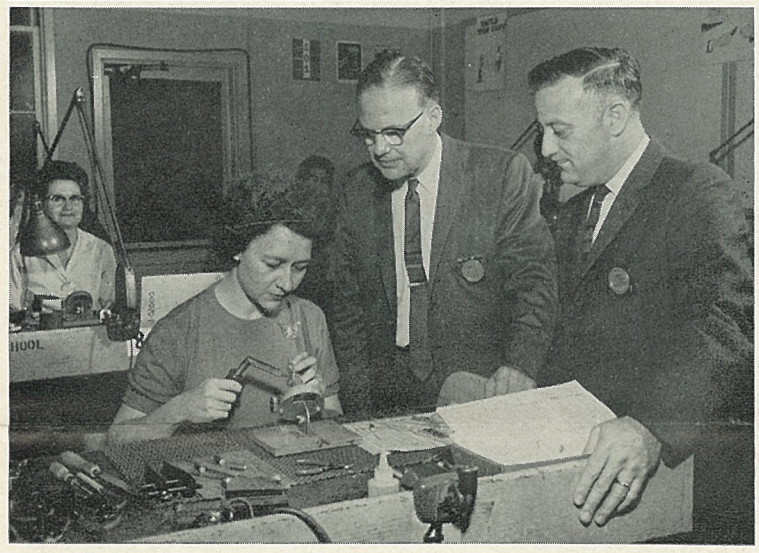
OUTLOOK TOLD — Roger Lewis, president of General Dynamics and now chairman of board, gave views last month on company future.

"As one step, all corporate headquarters activities have been consolidated in New York City for greater efficiency and for centralization of policy. Staffs are being trimmed down sharply, and controls tightened. We are reorganizing for much more effective communication between headquarters and the operating divisions. We are paying particular attention to cost control.

"We are trying to build a structure that will help us spot potential trouble long before it can become real. At the same time we are building toward a system that will encourage a flow of new ideas directed toward not only next year's requirements but those of a decade hence.

"This company, with its deep human resources and its inherent technical strength, is in an excellent competitive position. Proposals and concepts will be turned into contracts and products. Not all of them, to be sure, but enough of them to assure important growth in the future.

"We are confident that the hard work, talent and dedication of all the people in this company will insure its success . . ."



RIGHT WAY—Elizabeth Hennessey, GD/Electronics assembler, shows General Manager William Lawrence and J. H. Thompson, GD/E manager of manufacturing, correct method of assembling electronic units in continuing soldering qualification school.

'Do it Right!' Is Keynote Of Soldering Program

Importance of "doing it right the first time" is main theme of a stringent training program now under way in General Dynamics/Electronics at San Diego.

Over 150 electronic assemblers will receive intensive instruction in correct assembly and soldering procedures before conclusion of the current soldering qualification school.

Since the last of February, when classes began, 94 people have completed the 40-hour course. At least 50 more will go through the training before end of the series.

"This training is of utmost importance in maintaining the high quality of GD/Electronics products," emphasized William Lawrence, GD/Electronics general manager.

"We expect to see many long-range advantages, especially when we are evaluated by customers for new business. We can prove that we are able to meet the most rigid specifications."

Subjects covered range from wire stripping (removal of insulation) to instruction in care and handling of electronic components weighing an ounce or two and costing several hundred dollars apiece.

"These courses, based on GD/E specifications and GD/E customers' requirements, teach our assemblers to put together expensive electronic units perfect the first time," said J. H. Thompson, GD/Electronics manager of manufacturing. "This not only eliminates risk of rejects but saves thousands of dollars worth of costly components."

Assemblers are taught to properly mount electronic components on circuit boards and terminal boards; to assemble these components in an orderly manner according to engineering and specification requirements; to prepare and solder wires and leads to terminal posts; to solder wires to pins in plug connectors.

They are given instruction in safety regulations at the same time.

Visual aids such as color and sound films, posters illustrating methods and skills, informational hand-out materials, typical samples of electronic parts and materials are used.

Each student receives a soldering qualification card after he successfully passes a written test and completes a work project.

Instructors are Willadeane Ellis and Jack Wananabe, both of GD/Electronics, and L. E. Cook of GD/Convair educational services.

Similar training is now under way at GD/Astronautics, both at the main Kearny Mesa plant and at Plant 2. More than 1,000 will receive the same type of instruction in the continuing program at Astro.

GD/Electronics courses are coordinated under GD/Convair educational services, headed by H. W. Rubottom. Coordinator is William Goggin, assigned to GD/Electronics training programs.

Other courses now in progress for GD/Electronics include material handling, value control, quality improvement, and a college credit 8-week course in circuit analysis. Inspection training will start in the near future.

Contract Let For Four TBs

Air Force announced in Washington last week that a $2 million letter contract to convert four test B-58s to trainer-bomber status had been issued to General Dynamics/Fort Worth.

The $2 million was to be used for starting work on the first trainer bomber and purchasing long lead-time articles for conversion of the three remaining planes.

Addition of added window space and controls to second station—enabling either first or second-station crewman to fly the Hustler—are the main modifications.

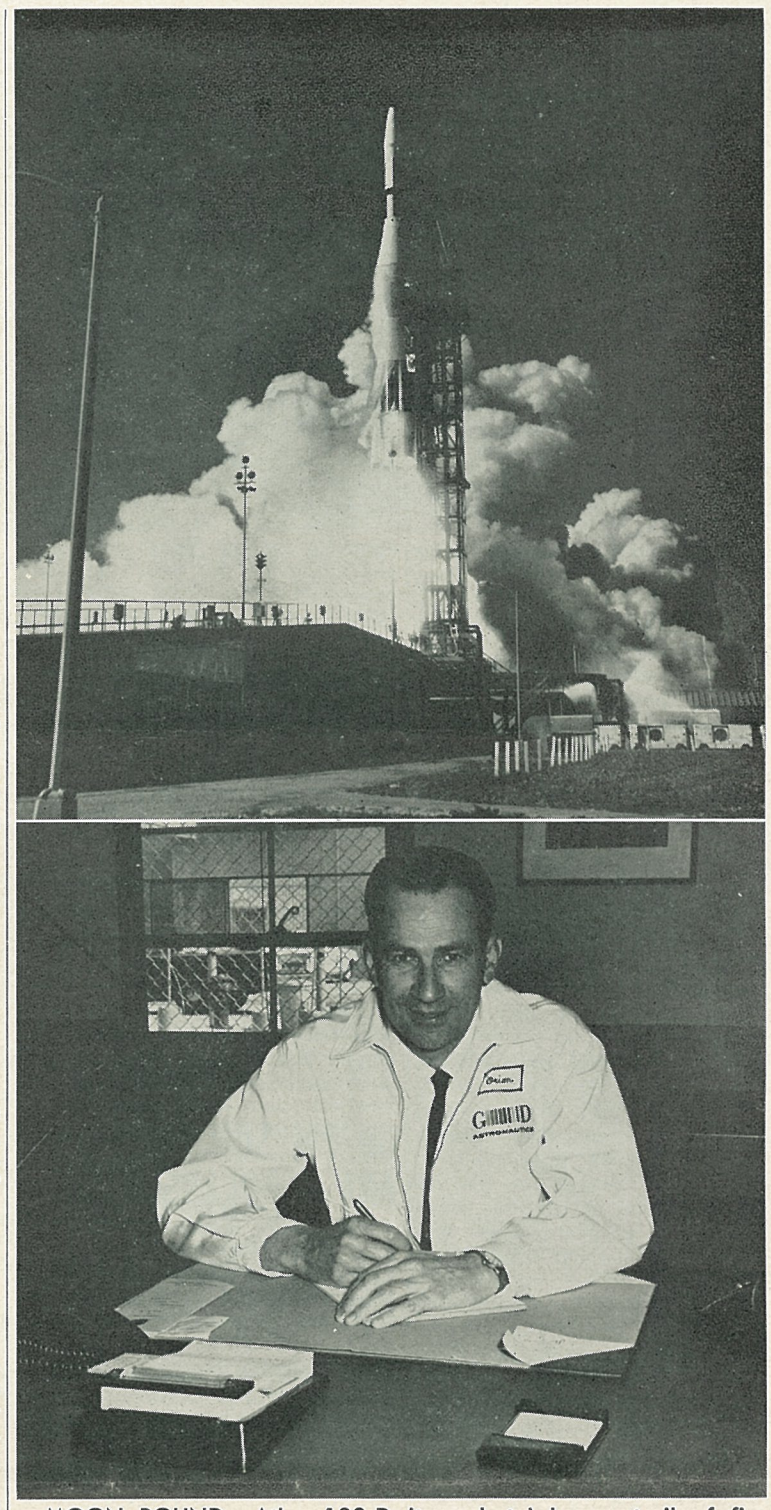
Four other test B-58s were converted to TBs earlier in the B-58 program. They are now being used at combat crew training schools at 43rd Bomb Wing and 305th Bomb Wing to train Hustler pilots.

Further information about the conversion program was to be made available following signing of a definitized contract.

Daingerfield Awards First 20-Year Pin

John Gluch, test engineer in the jet engine department, last month became the first employee at Daingerfield Division of General Dynamics/Pomona to receive a 20-year service pin.

Gluch joined the company in February, 1941, at San Diego as a draftsman, but resigned the same year to accept other employment. He rejoined the company in November, 1942, at the wartime Nashville Division, later transferring to Fort Worth and then to Daingerfield in 1945.



MOON BOUND—Atlas 133-D (top photo) leaves trail of fire and smoke as it clears Complex 12, Cape Canaveral, seconds after being launched by GD/Astro crew. Coupled with Agena B stage and Ranger 4 spacecraft, launch led to impact on back side of moon 64 hours and 231,000 miles later. Launch came April 23 with 730-pound gold and chrome-plated spacecraft impacting April 26. In lower photo is GD/Astronautics' Orion Reed, test conductor for launch, shown at Cape Canaveral.

GD/Convair Exhibit Attracts Six-Deep Crowd at Space Meet

Capabilities and products of General Dynamics/Convair suitable for use in the space era aroused high interest among delegates at what is termed one of the most concentrated gatherings of space experts from throughout the U. S.

Contacts which could prove valuable to the division as it competes for tasks involving space vehicles and hardware were established by GD/Convair representatives manning the division's booth at the recent Western Space Age Industries and Engineering Exposition and Conference in San Francisco.

First of its kind on the West Coast, the exposition provided an opportunity for GD/Convair to present its wares to government and military agencies, as well as the industry at large.

The booth, designed in GD/Convair communication department, was packed to the brim with actual specimens showing the division's advanced capabilities, with associated products already tried and tested.

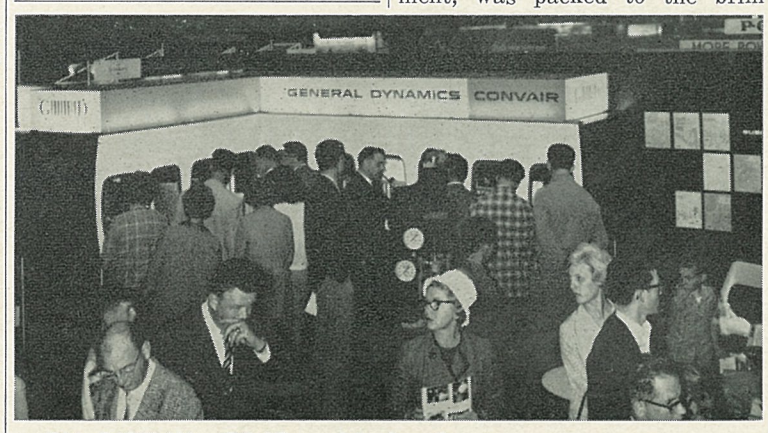
Spectators, six deep, ringed the display, drawn by the attention-getter—a tension test machine which cracked like a .38-cal. pistol as it exerted the tremendous force necessary to pull apart specimens bonded by the GD/Convair-developed Scotchweld process.

The division's foremost manufacturing developments, using such materials as plastics, honeycomb, titanium, were featured, as well as Scotchweld bonding. A slice of an actual Convair jet transport—lounge with GD/Convair-designed seats, 990 interior panels complete with windows—converted the abstract into reality.

Noted officials present at the April 25-29 conference included the Hon. James E. Webb of Washington, D. C., administrator of NASA, who made the keynote address. Gov. Pat Brown of California and George P. Miller, chairman of the House Representatives committee on science and astronautics, also spoke.

Manning GD/Convair's booth throughout the exposition were Len Gaber of marketing and James Spurgeon, engineering design specialist. R. K. Gottschall, director of communication, headed a contingent of his department members coordinating details.

The booth is on display all this week at GD/Convair to give employees an opportunity to see it. It is set up in Bldg. 1 fabrication area adjacent to administrative offices.



ON DISPLAY—GD/Convair's booth at recent space age exposition in San Francisco attracted large crowds interested in division's advance capabilities.

Multi-Weapon Drops 'Good' Despite Weather

A half dozen drops over White Sands Missile Range, N. M., and several captive flights out of General Dynamics/Fort Worth have highlighted the B-58 multiple-weapon drop program.

Hustlers No. 38 and 42, both configured to carry additional bombs, are being used in the demonstrations which started early this year.

No. 38, which is stationed at Kirtland AFB with a GD/Fort Worth crew of about 30, is being used in actual drops over the White Sands facility.

Captive flights to determine flight characteristics of the Hustler with additional weapons are being conducted out of Fort Worth on No. 42.

The six drops were made at subsonic speeds. All were made at altitudes of from 36,000 to 40,000 feet except one, which was made at about a 1,000-foot level.

In each drop, only one of the additional weapons was unleashed on its target. Results were described as "generally good."

A total of about 27 such drops will be made to cover the speed and altitude spectrum of the B-58, and will include most positions. No more than two weapons will be dropped on any single mission.

Crews on these flights have included Fred Voorhees, pilot; Jack Denton and Fred Hewes, second station; and O. D. Lively and Ken Timpson, third station.

Meanwhile, two of the few remaining drops in the two component pod program were successfully carried out over White Sands.

A crew of Fred Voorhees, pilot; Jack Denton, second station; and Ken Timpson, third station, made a "good" high-altitude, Mach 2 tank drop in March. The same crew had made another successful high-altitude drop of an upper component earlier.

Hampered by bad weather, the program is expected to end soon. Two tank drops and a single upper component drop are scheduled.

Convair Badge Found in T-29

Mystery of a lost Consolidated Vultee Aircraft badge has been solved, some 10 years later.

A Consolidated employee's badge, marked Dept. 35, clock number 317051, turned up on the desk of Helen Hall, mail clerk in GD/Convair service parts, a few days ago.

A letter from Maj. Willis J. McNabb, USAF, chief of maintenance at Bolling AFB, explained that it had been found lodged under the floor panels of a T-29D at the base.

T-29s, navigational bombardier trainers, were built by Convair at San Diego for the Air Force during the early '50s.

QC MEETING HEARS POMONA SPEAKER

Dale R. Connor, supervisor of inspection services at General Dynamics/Pomona, was a speaker at the second annual "Inspection Workshop" conducted May 5 in Glendale by the Inspection Division of the Los Angeles Section of the American Society for Quality Control. Connor's subject was "Aids for Electronic Component Inspection."

Nurse Lorna Payne Heads Association

Lorna S. Payne, staff nurse at General Dynamics/Convair, has been elected president of the San Diego Industrial Nurses Association.

She previously had served on the board of directors and as a member of many committees of the association.



"Well, we're not fighting the war very hard."

Atlantic Flight Merits Award

The MacKay Trophy awarded annually for the "most meritorious flight of the year" will be presented to a B-58 crew for their history-making New York-to-Paris flight May 26, 1961.

Gen. Curtis LeMay, Air Force chief of staff, will present the award at an Armed Forces Day celebration at Andrews AFB, May 19. Receiving the trophy will be the crew that made the historic B-58 flight across the Atlantic in 3 hours, 19 minutes, 51 seconds—Lt. Col. W. R. Payne, pilot; Maj. W. L. Polhemus, bombardier-navigator; and Maj. R. R. Wagener, DSO.

The MacKay Trophy was established in 1912 by Clarence H. MacKay, an aviation pioneer in America. After his death the trophy was awarded by National Aeronautic Association.

GD/FW SON WINS ART SCHOLARSHIP

Joe Albert Bohn, son of J. G. Bohn, GD/FW Dept. 81, was named scholarship winner of the second annual Junior and Senior High School Art Show in Fort Worth.

The show is sponsored jointly by Fort Worth National Bank and Fort Worth Junior Chamber of Commerce.

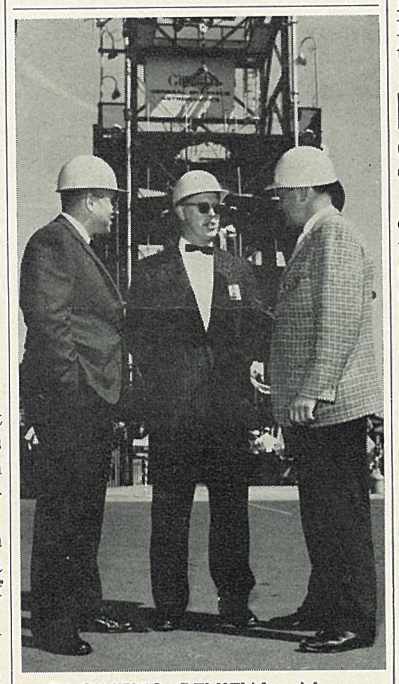
Bohn will receive, after graduation, a $250 scholarship to a university, college, or accredited art school of his choice, and an additional $250 award to purchase from him all of the original art work in his winning portfolio.

Bohn's work was selected from more than 1,000 entries from students of grades 9 through 12 in the Fort Worth Public Schools.

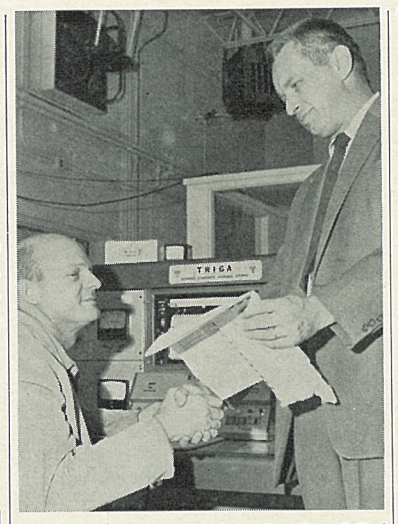
GD/Pomona Doctor Speaks on Cancer

Dr. Willard L. Smith, chief plant physician at General Dynamics/Pomona, was guest speaker at the April 26 meeting of the California Society of Professional Engineers.

His subject was "Cancer." The meeting was at the El Rancho Verde Country Club near Rialto.



FACILITIES REVIEW—Norman Crone, center, of NASA's Washington office, was recent visitor to GD/Astro. He is shown near Sycamore Canyon test facility with Ronald Rovenger, left, NASA plant representative at GD/Astro, and R. A. Raffesberger, Centaur chief project engineer for GSE and facilities. Crone was studying various available facilities.



LICENSED — Jack Pugh, GD/FW test engineer, receives license to operate General Atomic's Mark I TRIGA reactor from John R. Shoptaugh.

TEST ENGINEER TRIGA OPERATOR

Jack Pugh, General Dynamics/Fort Worth test engineer, was recently issued a two-year license to operate the Mark I TRIGA reactor, designed and built by General Atomic Division.

Pugh successfully completed a course of instruction to operate the reactor at Torrey Pines facility, San Diego.

On completion of the course, he was examined by Atomic Energy Commission. John R. Shoptaugh made the presentation.

Seven other engineers at GD/Fort Worth have received nuclear reactor operator's licenses. They are C. W. Dickerson, E. L. Jordan, J. B. McGuffin, Willie Park, J. T. Pancoast III, D. F. Ross, and E. J. Brunner.

Minot F-106s Busy in March

Convair-built F-106s based with the 5th Fighter-Interceptor Squadron, Minot, N. D., put in more flying time during the month of March than in any other month in the two years since their activation there.

D. W. St. Pierre, General Dynamics/Convair field service rep at the base, reports that F-106s broke 400 hours and set a goal of 500 hours for April.

In the two exercises called during the month, one by the 29th Air Division and the other by Minot Air Defense Sector, the 5th FIS flew 257 sorties, totaling 406 hours, 40 minutes in the air. The 5th had 224 radar intercept sorties for the month.

In a change of command, Col. James O. Beckwith, Minot Air Defense Sector commander, was due to leave Minot the first of May for reassignment to ADC Headquarters as systems integration and programs chief.

Fatigue Specialist Speaker in Dayton

Clarence R. Smith, design specialist in General Dynamics/Convair fatigue laboratories, will speak at a meeting at University of Dayton, Ohio, May 22.

The gathering is sponsored jointly by the Central and Southern Ohio Sections of the Society for Experimental Stress Analysis.

Smith's topic will be "Influence of Residual Stresses and Stiffness Factors on Fatigue Strength of Metals and Structures."

He gave the same lecture in late April at a state-wide engineering symposium at the Brigham Young University, Provo, Utah.

Paul Lewis Named Data Process Chief

Paul E. Lewis has been named chief of scientific data processing at General Dynamics/Astronautics by G. M. Robertson, director of management systems.

Lewis reports to C. E. Diesen, manager of data processing, and succeeds W. W. Varner who is now on special assignment reporting to Robertson.

They're in Business

Doll-Collecting Bug 'Catching' And GD/FW Guard Succumbs

J. L. Kleinecke, a veteran guard at GD/Fort Worth, gets his "biggest kicks" these days out of collecting dolls.

"Don't laugh," he said, "plenty of men have the bug. In fact, the biggest doll collector in the country is a man."

His wife started the family hobby about two years ago.

Kleinecke, probably like many other male collectors, got started by repairing, packing, mailing and generally handling the "business" end of the avocation.

"Now, we're co-partners," Mrs. Kleinecke said.

Included in the Kleinecke collection are dolls from Germany, France, Japan, Greece, Russia, and of course, all parts of the U. S.

The Italian dolls—many of them sent by Kathryn Kleinecke, a niece living in Rome—are perhaps the collection standout.

"We have several creche, or religious dolls, dating back to 1600 and 1700, the Italian Renaissance period," Kleinecke said.

Made of wood and terra cotta, the Italian dolls are authentically garbed. A single doll in the collection has been valued by an expert at $250.

"We're also real proud of our collection of six Russian dolls," Mrs. Kleinecke said. "They're hard to come by in this country."

The "American" collection includes several famous persons of the Wild West. A favorite is "Lemonade Lucy," wife of Rutherford B. Hayes, 19th president of the U. S.

The Kleineckes have sold some of their prized collection, with a single doll bringing as much as $125.

Dolls, according to the Kleineckes, are the third largest collection item.



HOBBY—J. L. Kleinecke, GD/Fort Worth guard, and wife collect dolls from all over world, like these valuable collector's items from Italy.

Pilots and Maintenance Crews Team To Score High in Rotational Firing

A joint team effort by F-102 pilots and maintenance men from Perrin AFB, Texas, scored highest percentage of effectiveness points since last fall's William Tell meet in a rotational firing exercise at Tyndall AFB, Fla., recently.

In the unit competition, the Perrin outfit achieved "one of the best team efforts ever witnessed," in the words of the Weapons Center project officer.

Six pilots, 27 maintenance personnel of the 3555th Fighter Training Wing participated. Strong support from the maintenance crew was credited for the high score.

They rescued what would have been an automatic loss of 1,000 points when one aircraft developed starter trouble, changing it in time for the next mission.

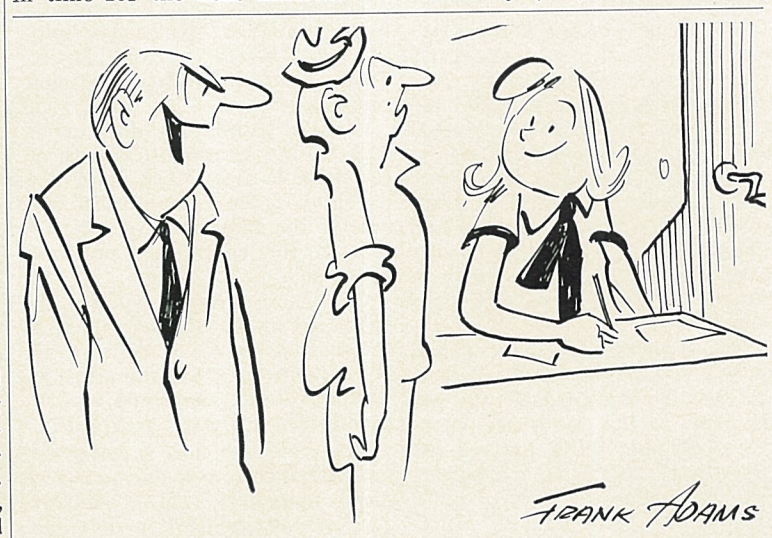
This was the first rotational firing mission in which the 3556th Flying Training Squadron was directly responsible for furnishing pilots and coordinating deployment.

General Dynamics/Convair field service representatives based in support of Convair-built interceptors at Perrin are L. D. Harris and W. R. Boughey.

Jet 990s Fly First Service Into Africa

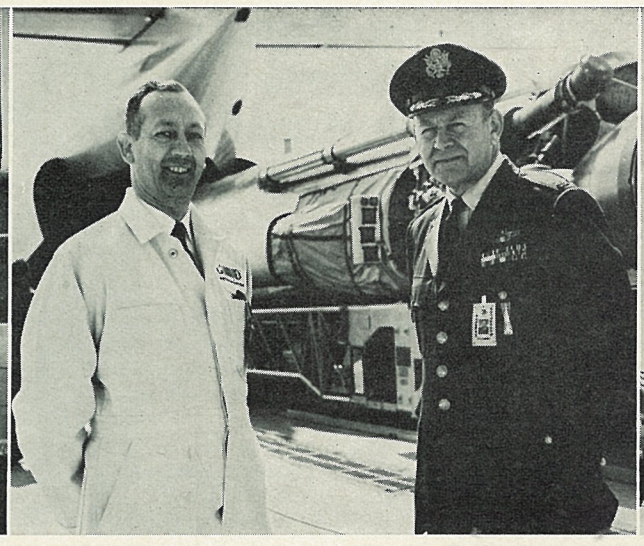
Convair 990 jet airliners ventured into a new part of the globe last week as they winged into Africa on regular scheduled runs.

Swissair began new 990 service connecting Zurich, Lisbon, and Accra, capital of Ghana, last Wednesday (May 2).



"He starts to work a week from Friday . . . Don't just sit there, Miss Thompson . . . Get to work on his payroll deductions!"







AROUND THE BASES—At center are W. H. Dunn, GD/Astro operations manager at Plattsburgh AFB, and Col. Calvin W. Fite Jr., SATAF commander, pictured as first Atlas missile arrived April 6. At right are interested spectators at unloading from C-133B transport. In photo at left, Major F. O. von Dorn, Site Activation Task Force, deputy for communications, left, and H. R. Massie, GD/Astro engineer, discuss Wide Area Telephone Service with Operator Pat Luechtefeld, at Walker AFB.

Walker Adopts New Distance Phone System

WALKER AFB — General Dynamics/Astronautics personnel here have joined other members of the Atlas Site Activation Task Force (SATAF) here in utilizing a new and faster means of long distance telephone service.

Known as Wide Area Telephone Service, called WATS, the service allows unlimited long distance calls within a fixed geographic area for a regular monthly fee.

Sixteen states including Arizona, Arkansas, California, Colorado, Idaho, Iowa, Kansas, Louisiana, Missouri, Nebraska, Nevada, Oklahoma, South Dakota, Texas, Utah and Wyoming are included in the system.

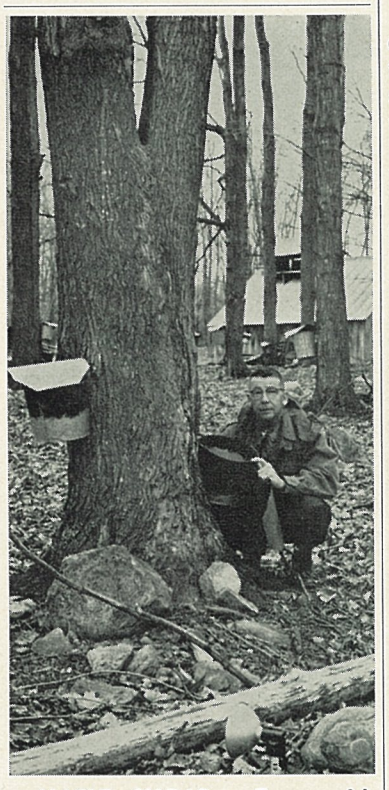
Expected to save some $1,200 per month in charges, the service was planned and arranged by Maj. F. O. von Dorn of the SATAF office here and H. R. Massie, GD/Astro manufacturing engineer.

A system similar to this has been installed and is in use at all GD/Astro "hard" bases with the exception of Schilling AFB. Naturally, the areas in which calls may be made vary with the location.

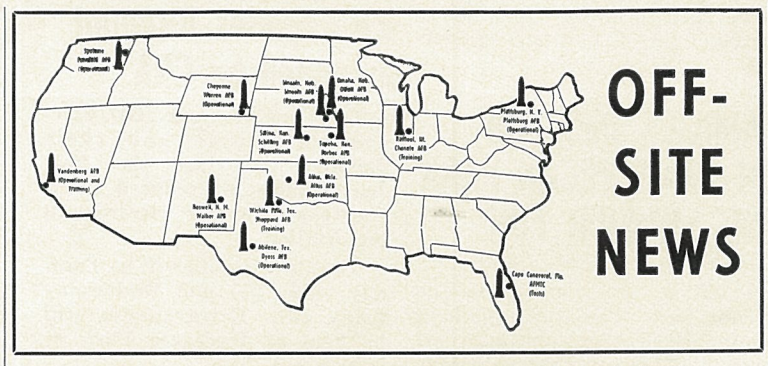
Approximately 50 Atlas operation telephones here are connected to the service with Pat Luechtefeld as Astro's WATS operator.

"In our business, we must be in constant touch with other Atlas bases as well as the factory in San Diego," Rex Ubben, Astro operations manager here, said. "This system will keep us in close communication for a lower dollar cost."

At present the system is for outgoing calls only.



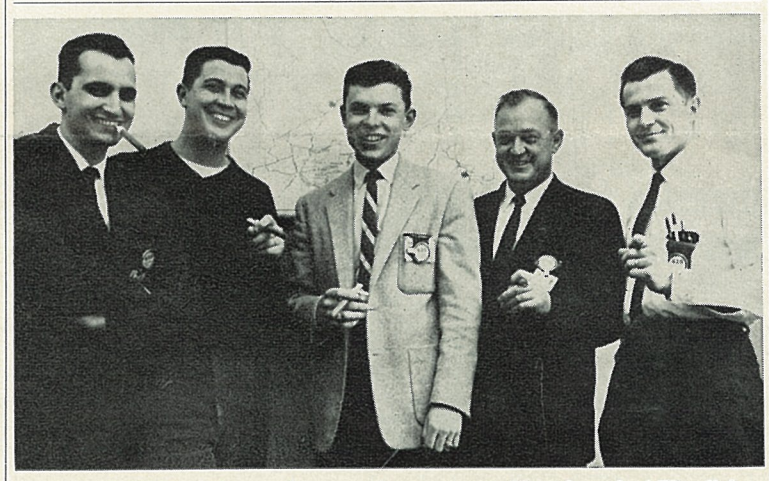
MAPLE SUGAR — From mid-March through April maple groves near Plattsburgh, N.Y. sprout buckets for traditional sap gathering time. Walter Gault, Astro photographer from home plant, was interested in contents of bucket in shot above.



OFF-SITE NEWS

GENERAL DYNAMICS NEWS CONTACTS

AFMTC—P. C. Brown, ext. 3-4741.
ALTUS—A. P. Dawkins, ext. 7141.
DYESS—G. D. Higgins III, ext. 8370.
EDWARDS RS—Chris Marques, ext. 27.
LINCOLN—Maxine Utley, ext. 412.
PLATTSBURGH—Elly FitzPatrick, ext. 6281.
SCHILLING—J. E. Riley, ext. 213.
SHEPPARD—Steve Delbridge, ext. 8243.
VANDENBERG—Lucy Signorelli, ext. 8-5046.
WALKER—Rod Bricker, ext. 603.
WARREN—Bill Jack, 77-466.



PAPAS FIVE—Five safety section men at Plattsburgh AFB all became fathers within two month period. Enjoying cigars are, from left, Ken Emery, Ken Crawford, Jerry Metzger, Rex Andrews and Cliff Clickner.

Fathers Celebrate Four Girls and Boy

PLATTSBURGH, AFB — If cigar sales soared over the past two months, GD/Astro's safety section members were a contributing factor.

All five members of the section became fathers in that period!

Four girls and one boy were born to the group. Father of a boy is Ken Crawford, safety technician. Rex Andrews, safety engineer, and Jerry Metzger, Cliff Clickner and Ken Emery, all safety technicians, fathered girls.

CHILDREN MODEL EASTER FASHIONS

SCHILLING AFB — Children (ages 3 to 10) took the spotlight here recently when the GD/Astro Wives' Club held an "Easter Parade" fashion show attended by 139 at the Officers' Club.

Models were Barbara Pimental, Christie Pimental, Teresa Ann Lee, Kathy Landers, Martha Landers, Charles Lynn, Robert Lloyd, and Ralph Vernor. Mrs. Frank May was narrator.

Door prizes went to Mmes. Joseph Pimental, Floyd Markussen, G. W. Couch, Neale Schryer and David Rogers. Hostesses were Mmes. Joe Landers, N. B. Lee, Ernest Lloyd and Charles Lynn. Mrs. Ted Heaton was named publicity chairman for the group.

Astro Wives Model Styles

LINCOLN AFB — Some 150 Astro Wives here were on hand recently for a "Spring Bouquet of Fashion" event staged in the Lincoln Telephone and Telegraph Co. Auditorium.

Planning chairman for the event was Mrs. Leon Van Patten with Mrs. Joseph Buglewicz as co-chairman. Committee members included Mmes. John Lorenzen, Lee Stouse, Homer Smith, Vernon Pippin, Harry Morgan, James McGarry and Charles Foster. Mrs. Richard Adams coached models, while Mrs. Les Stockton supervised coiffures and Mrs. Lee Stouse handled make-up.

Models included Mmes. Van Patten, Paul Rutherford, E. J. Jeffers, Louis Wirff, Vance Walsh, Bruce Beebe and Joy Stockton.

Plattsburgh Wives Seat Officer Slate

PLATTSBURGH AFB—Syvilla Gilmore, president, headed a new slate of officers which was seated at a special meeting May 1 of Astro Wives Club here.

Others taking office included Johnnie Chambliss, vice president, Joan Halford, recording secretary, Pauline Guntlow, corresponding secretary, and Loreli Snyder, treasurer.

Plattsburgh Crowds Turn Out To Watch First Atlas Arrival

PLATTSBURGH AFB — Sixty local city and county officials were special guests here April 16 for a look at the Atlas missile and also a close look at underground silo launch complexes being activated by GD/Astro forces.

Led by Plattsburgh Mayor John J. Tyrell, the group gathered at the base Officers' Club for a briefing by Col. Winton R. Close, commander, 820th Air Division; Col. Calvin W. Fite Jr., SATAF commander; and Col. Richard Beck, commander, 556th SMS.

Next came a bus trip to the Squadron Maintenance Area where the group viewed the first Atlas assigned to the base and heard a talk on the Atlas weapon system by W. H. Dunn, GD/Astro operations manager.

Next came visits to launch complexes 7, 8 and 9 near Chazy Lake, Ellenburg and Moores, N. Y.

Following a return to the base, visitors were guests at a dinner sponsored by Col. Close and base Strategic Air Command units.

The initial Atlas missile assigned to this base arrived April 6 after a flight of about eight hours from the main plant at San Diego. Chester O. Hill of GD/Astro directed the crews that unloaded the missile in less than two hours.

Technical Orders Conference Subject

SCHILLING AFB — This GD/Astro installation has played host for over two weeks to a joint Central Technical Order Change Unit.

Composed of GD/Astro and Air Force representatives, the conference reviewed technical order changes developed here and at Vandenberg AFB, Lincoln AFB and Altus AFB for incorporation into technical orders common to all "F" series bases.

Maj. Bill E. Masure represented SAC; Maj. Walter E. Brown was an Air Force Logistics Command representative; and W. E. Barnes, Dept. 324-2 engineer, was GD/Astro representative.

GD/Astro Daughter Wins Math Contest

ALTUS AFB — Linda Russell, 14, daughter of GD/Astro's C. C. Russell here, recently finished first in an Oklahoma-wide scholastic contest in mathematics staged at Oklahoma State University, Stillwater.

The contest drew 318 high and junior high school students who took part in competition in chemistry, physics, mathematics and mechanical drawing.

A freshman at St. Mary's High, Lawton, Linda has attained a 94 average for her first year of high school work.

Altus Drivers Hold Record

ALTUS AFB — General Dynamics/Astronautics drivers here on May 1 observed "Five Million Mile" day in honor of operating company vehicles more than 5,000,000 miles without a fatality or personal injury.

Of a total of 32 accidents, only two involved damage of more than $500. Astro drivers were not cited.

Vehicle operations here have extended through southwestern Oklahoma and into northern Texas and have involved driving in all types of weather, including heavy ice and sleet conditions.

Ray H. Page, Oklahoma Department of Public Safety commissioner, praised the record in a wire to J. N. McPheeters, GD/Astro operations manager.

"For your drivers to have amassed five million vehicular miles in southwest Oklahoma with no personal injury or fatal accidents and with very few minor property damage accidents is a tremendous feat. We wish to commend you and all others who are responsible for this wonderful traffic safety record," Page said.



PROUD TRIO—Astro's Altus AFB transportation function has operated more than five million miles in vehicles without an injury or fatality. This trio shows off sign marking occasion. From left, John Green, transportation supervisor, Horace Norcross, driver, and Harding Hensley, assistant supervisor.

Blue Ribbon Winners Selected In Joint ARA-CRA Rose Show

Commissioners Gene Zimmerman (CRA) and Everett Henderson (ARA) have announced blue ribbon winners in the joint ARA-CRA Spring Rose Show last month.

"Best of Show" was an entry by G. L. Scheibel, GD/Convair Dept. 180.

Receiving ribbons for their single rose displays were CRA members Scheibel (2); Mrs. Scheibel; Zimmerman, Dept. 401-5; John Jodka (2), Dept. 91; three-rose class were Evelyn Finley, Dept. 14; and Lora Lee Young, Dept. 400.

From GD/Astro winners in this class were Rose Sorenson, Dept. 756-3; Mildred Clark, Dept. 343-6; W. E. McVay; and Carolyn J. Buman, Dept. 597-1.

GD/Convair winners in the three-rose class were Evelyne Thrall, Dept. 3-2; Gloria Jodka (4); John Jodka (3); Felix White, Dept. 115, and Mrs. White (2). ARA winners were Rose Sorenson (2); Mildred Clark; Phyllis Files, Dept. 951-3; and Charles Ulrey, Dept. 193.

Winning in arrangements were Convair folk Mrs. Harold Inman (2), Dept. 171; Jean Henderson, Dept. 16; and Margaret Boyd. Mrs. W. E. McVay was an Astro winner.

GD/Astro entrants swept the corsage class with ribbons going to Carolyn Buman; Mrs. Richard Freedman, Dept. 535-9; and Yvonne B. McMillon, Dept. 342-2.

For children 5-11 years old, the blue ribbon went to Convair daughter Christine Ann Scheibel, while Connie Boyle, daughter of Mr. and Mrs. C. T. Boyle, GD/Astro Dept. 350, won in the 12-16 year class.

Astro, Convair Teams Leading In Volleyball

Support Documentation and Spacemen were running ahead of the pack after four weeks of play in the IRC volleyball tourney.

Made up of Astro players, Support Documentation was undefeated in the Wednesday League while Spacemen, a GD/Convair team, had a clean slate for the Friday loop.

Reliables of Astro dropped out of the Wednesday League to leave five teams playing. In the Friday League, Design, also Astro, was replaced by Dept. 101.

Last games played the final weeks in April saw Convair Engineers downing Reliables, 15-2, 15-3; City Engineers over the Hounds, 15-8, 15-9; Support Documentation winning from Astronets, 15-8, 15-1.

The following week City Engineers beat Convair Engineers, 15-8, 15-12; Astronets dropped a drawn-out match with the Hounds, 13-15, 16-14, 16-14. Support Documentation took an automatic win from Reliables.

Friday League results kept Spacemen in lead spot with wins over Park and Recreation, 15-1, 15-2, and Dept. 101, 15-2, 15-7.

Project Support defeated Dept. 101 in their first game in the league, 15-8, 15-9, and went on the next week to win from Park and Recreation, 15-9, 15-10.

All games are played at Muni Gym, Balboa Park, 7:30 p.m. on Friday nights; 7 and 8 p.m. on Wednesdays. Spectators are welcomed.

Archaeology Club Digs at New Site

An excavating party May 13 and business meeting May 23 are on the agenda for ARA Archaeology Club.

The group recently began excavation of a new site near Poway, and the first one-foot test pit yielded good specimens of arrow heads, pottery and bone chips. Work on this site will continue May 13.

The group's regular meeting at 7:30 p.m., May 23 in ARA Clubhouse will feature three films.

Motorcyclists Slate Benefit Run May 13

A benefit road run will be sponsored May 13 by Astro Motors, ARA motorcycle club, beginning and ending at Picnic Shelter No. 1 in the ARA Area.

Cyclists will get under way between 10 and 11 a.m., with deadline for finishing the course set at 4 p.m.

An entry fee of $1 per person will benefit an Astro employee recently injured in a highway accident.

Saturday Salvage Schedule Listed

Saturday schedule at salvage yards at both GD/Convair and GD/Astronautics sites for the next four weeks is:

GD/Convair—May 12, 26.

GD/Astronautics—May 19, June 2.

Yards are open to employee sales on an alternating Saturday schedule from 8 a.m. until noon.

Speakers Plan Birthday Party

Dynamics Toastmasters will observe their tenth anniversary at a May 24 dinner in the Tower Room of Stardust Motor Hotel, Mission Valley.

District and area officers as well as top-level executives from GD/Convair, GD/Electronics, and GD/Astronautics have been invited to the stag affair, for members only.

Reservations at $3.75 each must be made before May 22. warned M. L. Sweeney, program committee chairman. He may be contacted through Plant 1, ext. 1687, for ticket information.

Sweeney will act as toastmaster; J. L. Carr, topicmaster. Speakers will be Clark Hoskins, Tim Turner, Ken Samples, Fred Stevens. General evaluator will be C. C. Campbell.

Social hour will start at 6 p.m. with dinner following.

Following recent elections, newly-installed officers of Toastmaster Club 457 are: J. L. Williamson, president; Samples, administrative vice president; T. R. East, education vice president; A. R. Brunner, secretary; Stevens, treasurer; U. C. Sammons, sergeant at arms.

Regular dinner meetings are held weekly on Thursday evenings.

Henderson to Hold Garden Open House

An open house for garden enthusiasts will be held Sunday (May 13) at the home of ARA Commissioner and Mrs. Everett Henderson, 3503 Yosemite St., Pacific Beach.

Henderson has invited General Dynamics employees to "drop in" between 9 a.m. and 5 p.m. to view more than 1,000 orchid blooms, including several prize-winning plants.

Stamp Collectors Plan Trade Night

"Traders' Night" will be featured at a meeting of ARA Stamp Club slated for 7:30 p.m., tomorrow (May 10) in ARA Clubhouse.

At the previous meeting the group viewed a topical display presented by Mr. and Mrs. A. Hurlich. Based on a "fine arts" theme, this included over 1,000 stamps on subjects such as art, theatrical stars, music and musicians.

A club effort headed by Jim Schofield and Jim Rowley is now under way to display several frames of stamps at Del Mar Fair next month.

ARA Stamp Club meets twice monthly, alternating trading and auction sessions. A special club unit accommodates youngsters interested in stamp collecting.

Estimating, Program Control Centered; Bechtol Is Manager

In a realignment within industrial engineering at General Dynamics/Convair, estimating and program control functions have been consolidated under R. E. Bechtol as manager.

Reorganization became effective April 23, according to an announcement by R. M. Hatcher, director of industrial engineering.

Bechtol's staff will be H. B. Rogers, chief of program estimating; C. M. Gauss Jr., chief of material and tool estimating; W. J. Dewey, chief of program control.

Replacing Bechtol as chief of facilities engineering is C. A. Ives, reporting to W. E. Wise, manager of resources engineering.

FAMILIES DESCEND ON CRA'S PECAN PARK FOR SUMMER FUN

Picnic time is here again!

Families are descending on Pecan Park like the swallows coming back to Capistrano. At least 1,200 spent Easter Sunday enjoying the facilities of the CRA picnic park.

Departments and groups wishing to reserve the park for their outdoor gatherings are urged to contact Pete Beyrer at ext. 1245, Plant 1, for times. Everyone will be accommodated, he said, on a first-come, first-served basis.

And, the park is never closed to GD/Convair and GD/Electronics individuals and families, regardless of other commitments. Anyone can use the park for picnics any time during open hours even for 5 a.m. breakfasts, if they wish.

Pecan Park is open to division employees every day of the week except Mondays until 9 p.m.

Interested in Judo? Class Starts Thursday

A new judo class for youngsters 6 to 60 years of age is starting under auspices of CRA.

Tony Silva, judo instructor who holds a Brown Belt classification, will teach beginners and intermediates in the CRA Clubhouse, Pacific Hwy., each Thursday night. Classes start at 7:30 p.m. and last from an hour to an hour-and-a-half.

Charge for instruction and workout is 25 cents a person for each session. All GD/Convair and GD/Electronics people and members of their families are eligible.

Information is available from Pete Beyrer of CRA office, ext. 1245, Plant 1.

'Slow Pitch' Softball Teams Registering

Departments in GD/Convair and GD/Electronics still may register teams in the new "slow pitch" softball league now being organized, said Pete Beyrer, CRA commissioner.

Teams are made up of 10 men.

Practice will start as soon as possible, said Beyrer, with league play tentatively scheduled to open in June.

To enter teams, call Beyrer at ext. 1245, Plant 1.

SD Water Skiing On Telephone Basis

Water skiing at GD/Convair is still on a phone-call basis, reports CRA Commissioner Gene Sevigny.

When enough are ready to try Mission Bay waters regularly, skiing sessions will be held Saturday mornings from 9 a.m. to 1 p.m. on the east side of Crown Point.

For the present he urges all interested people in GD/Convair and GD/Electronics to call him at ext. 2779, Plant 1. A schedule with drivers' phone numbers will be sent to anyone wishing one.



INTRODUCTION—Capt. G. W. Okerson (left) is introduced to GD/Convair administrative staff by President J. H. Famme as he assumes BUWEPSREP post from Capt. B. K. Beaver (right).

Ice Capades Discount Arranged by CRA

GD/Convair and GD/Electronics people and their families may see the 1962 Ice Capades at reduced price, courtesy Convair Recreation Association.

The CRA nights will be Tuesday (May 29) and Wednesday (May 30). Extravaganza will be held at Westgate Park at 8:30 p.m.

Discount tickets allowing 50-cent reduction on all reserved seats are now on hand at employee services, Bldg. 32, Plant 1.

Tickets may be redeemed at the Westgate Park box office.

Regular admission charges are $4, $3.50, $3.00, $2.50. The discount does not apply to children's tickets.

DANCERS WILL PICNIC MAY 20 AT PARK

Hoedowners, CRA square dancing group, and their families will gather for their annual spring picnic Sunday (May 20) at Pecan Park.

Each family will bring its own picnic basket to spread under the pecan trees shortly after 1 o'clock. CRA will furnish coffee and punch, said Maury Scholz, CRA commissioner.

Scholz issued an invitation to all square dancers at GD/Convair and GD/Electronics to join in the fun whether they are members of the CRA club or not.

Games and contests for the children will start off the afternoon's program about 2 p.m. Prizes will be given winners. Then, the whirlers will get down to the business of the day as they form squares about 4 o'clock on the outdoor dance floor.

Regular intermediate and advanced sessions are continuing each Tuesday evening at 8 p.m., American Legion Hall, 4061 Fairmount Ave. The second Tuesday of each month is designated birthday night and all-singing call night.

Pistol Teams Shoot it Out

GD/Convair's first team shot themselves into first place in the first biannual Convair-Astro pistol meet April 22.

Convair sharpshooters downed the Astro team by ten points to win the competition, 1,137 to 1,127.

Individual winning team members and their scores were Vern Mardis (Dept. 34), 288; Carl Hornburg (Dept. 139), 290; Joe Williamson (Dept. 401-5), 286; W. G. Walker (Dept. 6), 273.

Results of the .22-cal. Police Course the same day saw Williamson taking the master class with 294. Hornburg was second with 288.

Walker was first in expert class with 271. Ralph Picard of GD/Electronics Dept. 6 came in second with 267.

Mardis won the .22-cal. Short National Match with 282. Williamson and Hornburg trailed by two points, with Williamson's 7 bull's-eyes giving him second spot.

Capt. Okerson New BuWepsRep

Capt. Glenn W. Okerson, USN, is new Bureau of Naval Weapons Representative in San Diego, effective April 23, with offices in Bldg. 19.

He succeeds Capt. B. K. Beaver, who has held the post since August of last year.

In effect, Captain Okerson and Captain Beaver are exchanging billets, with Captain Beaver replacing Captain Okerson as contracts support officer with the Fleet Readiness Representative Office, North Island NAS.

From June of 1958 until November, 1960, Captain Okerson was the BuNavWeps representative at Lockheed, Burbank, Calif. Before that he was with the former Bureau of Aeronautics in Washington, D. C.

A graduate from University of Oklahoma with a BS degree in electrical engineering, Captain Okerson joined the Navy as an air cadet in 1935. He earned his wings as a naval aviator at Pensacola and served aboard a number of ships until 1946.

The next three years he was with the Guided Missile Division of Bureau of Aeronautics. There he was directly concerned with development of the Convair Lark surface-to-air missile which became, in a sense, the forerunner of Terrier.

From 1949 to 1952 he served as missile test officer, Naval Air Missile Test Center, Point Mugu, and went on to Sandia Base, Albuquerque, N. M., with the Armed Forces Special Weapons Project for the next three-year tour of duty.

Life Pictures CRA Archer

Frankie Smoot, member of the CRA Archery Club, found herself pictured "big as life" in the April 27 issue of Life Magazine covering the first National Archery Tournament in Las Vegas.

Frankie placed sixth in the ladies' division, landing in the money at the $12,000 tourney. At least 250 women were among the 900 archers from 32 states competing.

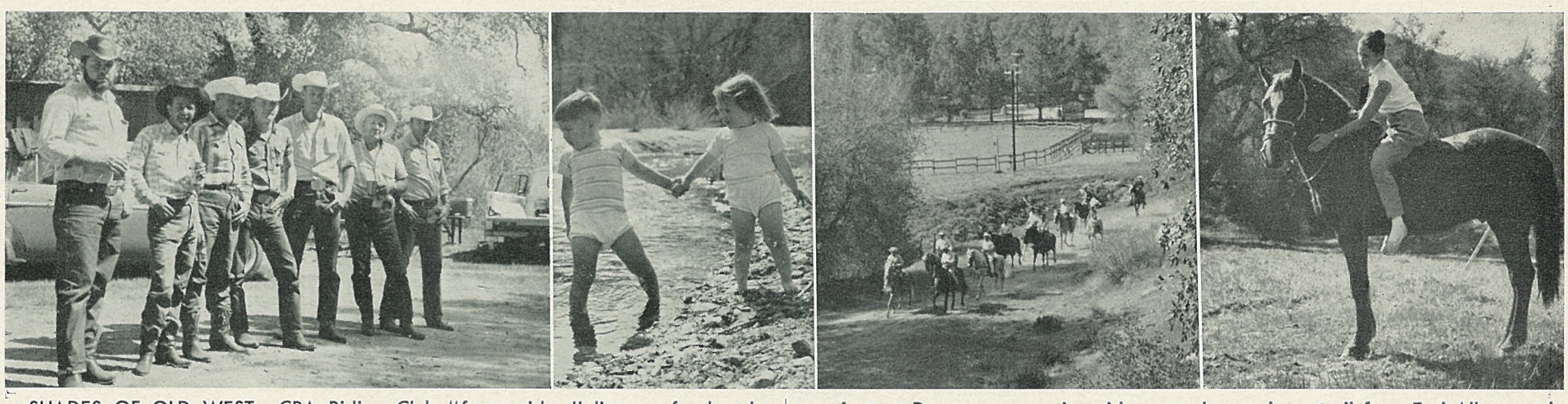
Peter Simoneau, whose father was a former GD/Convair man, won the trophy in the intermediate class. Other contestants from the CRA group were Nick Schmidt of Dept. 31 and Jack Butterwood, guest member.

The tournament, pointing up archery as big business, was sponsored jointly by Hotel Sahara and Colt's Patent Fire Arms Co.

'California Cuties' Will Play May 16

Exchange tickets may be picked up at GD/Convair employee services for the fun-type softball game presented by Industrial Recreation Council May 16, 8:30 p.m., at Colina del Sol, 54th and Orange.

With the ticket, price of admission is 75 cents. On the card are the California Cuties, foremost men players (dressed as women) vs. San Diego AAA All Stars. Two girls teams will meet in a 7 p.m. preliminary game.



SHADES OF OLD WEST—CRA Riding Club "fence riders" line up for breakfast (far left) before taking to back-country trails and wide open places during recent Spring Trek to Descanso; small fry of Chuck and Karla Barber do exploring on foot at Descanso campsite; riders wend way down trail from Earl Allen ranch, headquarters of weekend outing; (far right) lithesome woman member prefers to go it bareback.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. till noon, Clairemont Mesa Flying Site.

ARCHERY CLUB — Mother's Day open shoot May 13, Balboa Park Field Range. Registration until 9:15 a.m., shooting starts at 9:30 a.m.

BADMINTON — Regular play each Tuesday, 7 to 10 p.m., Federal Bldg., Balboa Park.

BOWLING — Organization meeeting of swing shift league, 1:30 a.m., May 12, Pacific Recreation.

BRIDGE CLUB — Weekly sessions every Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Meeting May 14, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play every Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

COIN CLUB—Meeting May 17, 7:30 p.m., Convair executive dining room, Pacific Hwy.

FENCING—Workouts and instruction each Friday night, 7-10 p.m., YWCA, Tenth and C Sts.

GARDEN CLUB—Meeting tonight (May 9), 7:30 p.m., Floral Association Bldg., Balboa Park.

GUN CLUB — Open shooting Sundays, CRA range, Gillespie Field. Open shooting Wednesday and Friday evenings.

ICE SKATING — Skate nights Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30 to 8 p.m.

JUDO — New class for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot May 13, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (May 10), 8 p.m., Harbor Drive headquarters.

RIDING CLUB—Campout and trail ride weekend of May 19-20, Los Caballos. For reservations call Roy Sims, JU-2-8096, by this weekend.

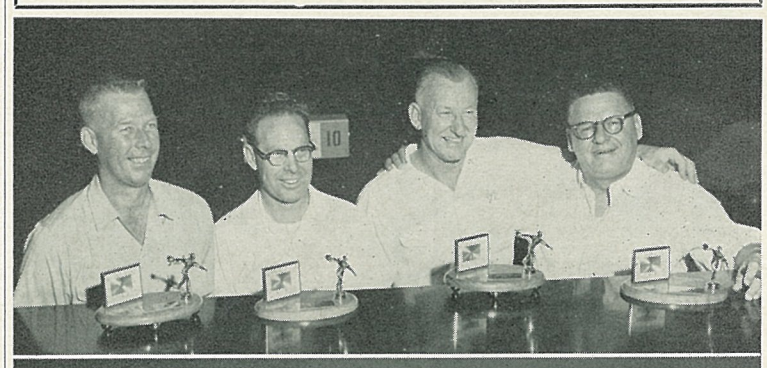
ROCKHOUNDS—Meeting May 10, 7:30 p.m., Gillespie Field Clubhouse.

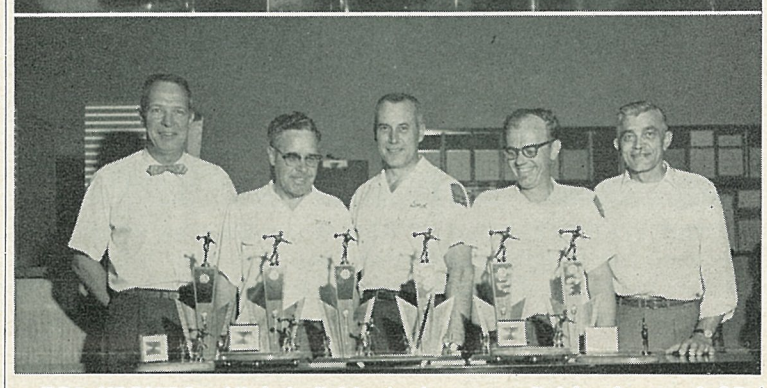
ROLLER SKATING — Free skate night May 21, Skateland, Front and G Sts. Tickets at employee services.

SQUARE DANCING—Family picnic Sunday (May 20) at Pecan Park. Advanced and intermediate sessions each Tuesday evening, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

WATER SKI CLUB—Weekend skiing on phone-call basis. Call Gene Sevigny, ext. 2779, Plant 1.

Sports & Recreation





TOP KEGLERS—High individual winners at finish of annual GD/Convair Management Club bowling tournament (upper shot) pose with trophies, from left, Ralph Montgomery, high individual scratch game; Ira Quillin, high handicap series; C. L. Pogorel, high scratch series; Lewis Albright, high handicap game. Lower shot shows winning Jets team members, from left, Bill Timm, Milt Hangen, Gordon Stickney, Carl Martens, T. Rockar, all industrial engineering.

Industrial Engineers Shade Trans. Team in Close Finish

Eight pins toppled by the last man in the last frame in the wind up of GD/Convair Management Club winter bowling tourney spelled the difference between the two top teams.

Jets, all of industrial engineering, took final honors with 2,866 in the April 23 play-off at Mission Valley Bowlero. After the dust had cleared, Transportation, first-half winners, were holding the sack with 2,858.

Winning team members were Carl F. Martens, Milt Hangen, Eugene Balcewicz, William Timm, Gordon Stickney, T. Rockar, Louis Slimmer.

On the Transportation roster was Charles L. Pogorel, Manuel Castillo, William Burnett, Perry Yates, Ralph Montgomery, Saveno Fortunato, James Lewis.

Altogether, 16 teams had been competing in the annual tournament play since last September, said Harry Lund, club bowling chairman.

Roy Dill, Management Club prexy, was on hand to give out trophies following the neck-to-neck finish. Jack Hurt, league president, accepted the president's trophy. Hangen served as league secretary.

Besides awards to winning team members, trophies went to high score holders. Montgomery was individual high scratch game winner, 248; Lewis Albright, high handicap game, 282; Charles Pogorel, high scratch series, 631; Ira Quillin, high handicap series, 681. Thomas Krattley was tabbed as most improved bowler of the year.

Muni League Entry Wins One, Loses One

GD/Convair's softball entry in the Muni League pre-season tourney won one and dropped one in last week's games.

The Convair Wings, made up mostly of Rose Canyon ball players, took their tilt with Bank of America, 4-3. The next night they went down before onslaught of American Legion, 5-1.

Astro's team had a forfeit from Royal AC and went on the next night to defeat USS Sperry, 6-1.

MOTHERS INVITED TO ARCHERY SHOOT

Mothers will have their day this Sunday (May 13) as special guests at CRA Archery Club's open shoot, Balboa Park Field Range.

Each man may register his wife for a door prize of stainless steel kitchenware, said CRA Commissioner Al Phipps, who urged all mothers, bow-toting or otherwise, to be on hand.

Each mother actually shooting in the Mother's Day event gets a chance at a separate door prize if enough enter, he explained.

Registration for the standard field round will be taken until 9:15 a.m. Shooting starts at 9:30 a.m.

GD/Convair archers will be competing in the State Regional Shoot at Camp Pendleton May 20. Winners will go on to the State Finals at Salinas June 2 and 3.

Club members participated in the King Arthur Shoot last Sunday at Balboa Park range sponsored by San Diego Field Archers.

GD/Convair and GD/Electronics Club Golfers Will Compete

Golfers of GD/Convair Management Club are heading to the annual NMA Southern California Area tourney, June 2-3, hoping that one of their own will bring the trophy home again.

Defending champ is John Jodka, GD/Convair Dept. 91, who has possessed the perpetual trophy all the last year for his low net score.

Entry forms, which went out this week to all GD/Convair and GD / Electronics club members, must be filled out and returned by the deadline date, May 25, warned Gerry Cox, tourney chairman.

At least 400 entries are expected from San Diego and Los Angeles management groups at the 18-hole event to be played over Torrey Pines south course.

Play is open to Management Club members only. Established handicaps are required to compete for the trophy, explained Russ Davis, club golf chairman.

Starting times will be given on a first-come basis for either Saturday (June 2) or Sunday (June 3) between 8 a.m. and 2 p.m.

Entrants are asked to make up their own foursomes if possible, although every effort will be made to place individuals. Entry fee is $2.50 each.

Forms must reach Cox, mail zone 102-0, before the May 25 date. For details he may be contacted on ext. 1650, Plant 1.

Riders Slate Weekend Camp

Mounted Color Guard of the CRA riding group were among San Diego area riders taking part in the Easter Sunday sunrise service at Lakeside this year.

Spectators were impressed with the sight of 176 horsemen silhouetted against the morning sky as they rode single file over the mountain.

Next event on the CRA Riding Club's calendar is a campout at Los Caballos over the weekend of May 19-20. Everyone planning to go must make reservations by this Friday (May 11) so that arrangements can be made for the food supply.

Saturday evening meal and Sunday morning breakfast will be furnished by the club. Rental horses will be available.

Roy Sims is taking reservations at JU-2-8096.

Convair Team Wins Rally

Results of Atlas Rally IV held late last month by ARA Sports Car Club, indicate a "field day" for GD/Convair sports car enthusiasts and for Austin Healeys!

Top award in the rally's navigational class went to GD/Convair's Tom Keinholz, driver, and George Blondin, navigator. The team—driving an A-H Sprite—completed the 215-mile course with a phenomenal total error of only 1.26 minutes!

Finishing in tenth place in navigational class were GD/Convair men Del Griffin, driver, and Chase Allen, navigator, who logged a 30-minute error in their Healey.

"Best of marque" trophy (for A-H Sprites, naturally) went to the CRA Sports Car Club team of James Hamill, driver, and William Reed.

CRA Lensmen Dominate Show

Two CRA Camera Club members garnered best of show and half of the blue ribbons given for both black and white and color entries in the recent Industrial Recreational Council's Photo Exhibit, April 21.

Howard Harvey (Dept. 6) won his first trophy in outside competition for "best of show" in color. He won firsts for still life in color, black and white portrait; took a third for black and white pictorial, and an honorable mention for black and white portrait.

Best of show for black and white pictorial went to Ron Ainsworth (Dept. 6). He also won first for black and white of animals, second for both pictorial and portrait entries.

Paul Cleer of Poly-Photo Club judged the group's quarterly contest April 23. Ainsworth won black and white award while Leo Vigneault and Harvey took color honors.

GD/Convair club members will hear a recorded lecture by the Photographic Society of America on "Filters, Facts, and Fun," at the May 14 meeting in Photo Arts Bldg., Balboa Park, 7:30 p.m. The tape-recorded lecture will be accompanied with slides.

COIN CLUB SEEKING HONORS FOR ROSE

CRA Coin Club members are backing one of their group in the national trophy race for the person who has contributed the most to the hobby over the year.

Harvey Rose, associate member of the Convair club, is devoting most of his time to work up interest in coin collecting throughout San Diego County. He climaxed his efforts during National Coin Week, April 28-May 6, with a full-paced schedule of appearances before many organizations, involving over a dozen displays in the area.

A scrapbook of Rose's complete activities in behalf of coin collecting will be forwarded to the American Numismatic Association for judging.

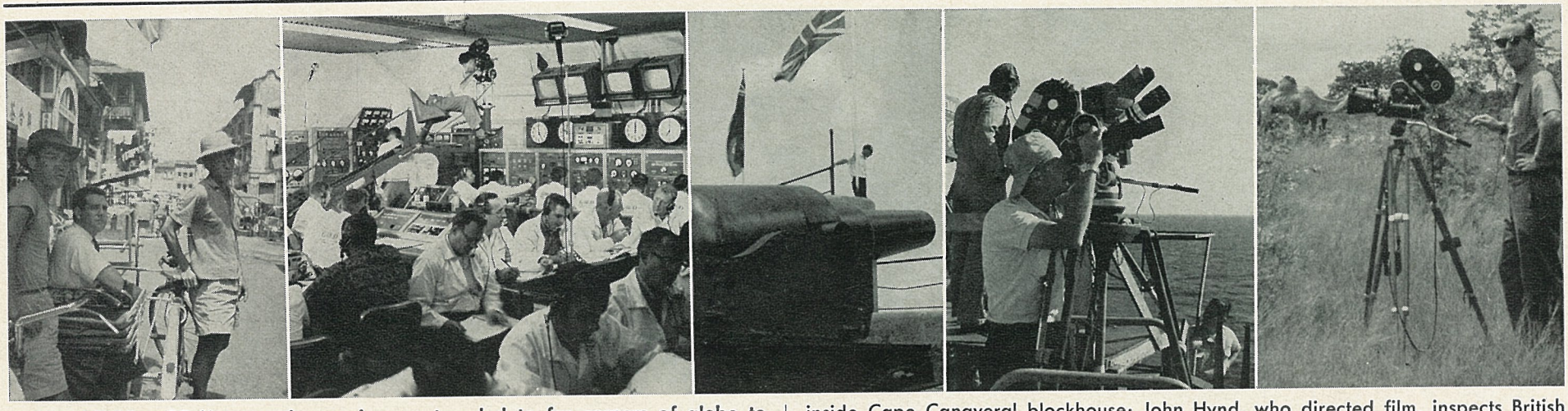
Highlight of next meeting of the CRA group will be a swap session Thursday (May 17), 7:30 p.m., in Convair executive dining room, Pacific Hwy.

Persing Holes Drive On 147-Yd. First Hole

Another General Dynamics linksman has joined the growing ranks of the lucky and skillful.

L. M. Persing, assistant foreman in GD/Convair Dept. 115, shot a hole-in-one April 28 on the 147-yd. first hole of Singing Hills west course using his No. 7 iron.

Witnesses were the rest in his foursome, Earl Carter, Frank Garrison, Frank Pagliuso, all Dept. 115.



FAR AFIELD—GD/Astronautics movie men traveled to far corners of globe to make film of Mercury flight for National Aeronautics and Space Administration. From left: Bill McClure, cameraman, in Singapore; boom-riding movie maker shoots inside Cape Canaveral blockhouse; John Hynd, who directed film, inspects British fort at Bermuda; Hal Reavely takes aim aboard recovery carrier, USS Randolph; John Hynd is "on location" near Kano, Nigeria, as camel wanders across "set."

Round-the-World Film Gives Foreign Reaction During Mercury Orbit

A motion picture produced by General Dynamics/Astronautics has provided millions of television viewers with the first full coverage of Lt. Col. John Glenn's Project Mercury Flight.

Two major networks carried edited versions of the film, and it was shown twice to GD/Astro employees in the Astronautics Recreation Association auditorium in San Diego, as well as at a special "Astro Night" in San Diego's Capri theater. Ultimately, the film will be available for community groups and showings at Astro off-site bases.

GD/Astro's Dept. 124 (motion pictures and television) produced the film for National Aeronautics and Space Administration (NASA) with Producer E. C. Keefer (now assistant to C. T. Newton, director of communication) and Director John Hynd (manager, motion pictures and TV) beginning background work almost a year in advance.

They made a round-the-world journey to check facilities and survey locations, and pave the way for production crews to cover the world-wide network of Project Mercury tracking stations. This was in April, 1961.

A full crew including Keefer and Hynd, Frank Kerr, writer, Loren Steadman, in charge of sound, and Bill McClure, assistant to the director, went into production in July during a second journey which established tracking stations on film and gathered general tracking procedure information.

As the date for the launch approached, Astro men took up vigils at distant stations.

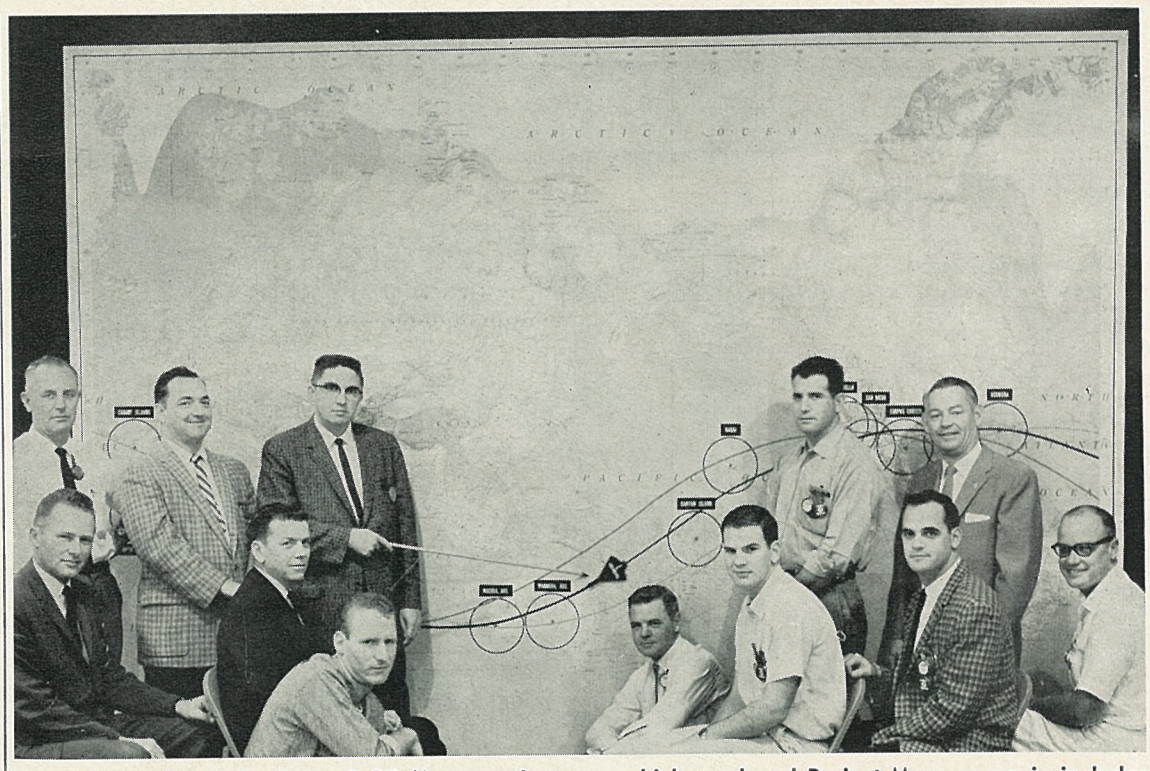
At Cape Canaveral, Hynd, Steadman, Kerr, McClure, Pat Callahan and Jerry Green concentrated on blockhouse operations and the "star" of the show, Astronaut Glenn.

At NASA's Project Mercury "nerve center" in Greenbelt, Md., were Mark Irwin, H. W. Lovejoy and Brent Judd. Jim Leath and Dick Crawford were based in Bermuda, while Bob Gobrecht headed for Kano, Nigeria.

To Perth and Woomera, Australia, went Bob Montague; Stan Ganser was at Kauai, Hawaii; Bill Hetrick was assigned to Guaymas, Mexico; and Mike Reese was stationed at Pacific Missile Range Headquarters, Calif. Larry Newell was ready at Corpus Christi, Tex.; while Willy Barton, Chuck DeMund and Hal Reavely went to sea aboard the aircraft carrier USS Randolph.

Production of the film was not without "behind the scenes" drama. Cameraman Bob Gobrecht topped the list for troubles. In London, pressed for time and unable to wait a week for a permit, he tried to "talk" his way into the House of Commons in order to obtain some footage of Big Ben. He made it through two guards, only to be ejected when near his goal. Similarly, in Greece he sought shots of Athens from atop the Acropolis but fell afoul of a local ruling requiring a tax on professionals and was ejected again.

In Lebanon, evidently mistaken for a subversive, he was held under guard for several hours before being released.



ORBIT WATCHERS—Part of GD/Astronautics crew which produced Project Mercury movie includes (standing, left to right) Hal Reavely, Bob Gobrecht, Loren Steadman, Bill McClure and Mark Irwin; (seated, from left) Bill Hetrick, H. W. Lovejoy, Pat Callahan, Willy Barton, Brent Judd, Mike Reese and Chuck DeMund.



INAUGURAL—American Airlines chose Carol Jean Walker, 5, to be "Miss 990" at Detroit inaugural of 990 Astrojet service. She is shown with stewardesses Jean Gutsell, Kay Miles, Rosemary Nicholson and Gwen Burns.

GD/E Products Put on Display

Products of General Dynamics/Electronics division are being displayed at two scientific conferences in different parts of the country this month.

Demonstrations of the S-C 3070 with Digitromic tape reader input and the S-C 1090 with IBM 729 tape transport were given last week, May 1-3, at the Spring Joint Computer Conference in San Francisco.

N. E. Frawley of GD/Electronics in San Diego, spoke on "High Speed Recording from Digital Data," at a special evening session.

This coming week, May 14-16, the GD/Electronics-developed terrain avoidance radar and CHARACTRON[R] shaped beam tubes will be shown at the 1962 National Aerospace Electronics Conference, Dayton, Ohio.

FW's Magers Elected To Honors Society

E. L. Magers of GD/FW, an instructor in the TCU Evening College, recently became the first faculty member to earn an invitation into Iota Chapter of Alpha Sigma Lambda, national evening college honor society.

Faculty members in the organization are limited to "those who make outstanding contributions to scholastic training of evening college students."

To be eligible, a faculty member must be elected by student members. He also must have taught in evening college for at least three years.

Magers will be initiated May 12.

WATSON TO ATTEND DIRECTORS MEETING

John N. Watson of GD/Fort Worth educational services will attend a spring board of directors meeting of National Management Association in San Francisco, May 14-18. Watson is Zone B vice president of NMA.

Model of Consolidated Airplane Recalls First Blind Flight in '29

A model of the Consolidated Aircraft NY-2 airplane in which Lt. James H. Doolittle (now general, ret.) made the first completely hooded instrument flight is on display in the National Air Museum in Washington, D.C.

The model was built by Capt. Robert C. Mikesh, USAF, sponsored by Major R. H. Fleet, founder of Consolidated, who requested the model to commemorate Doolittle's historic flight, Sept. 24, 1929.

The flight is mentioned in a history of Convair, authored by Howard O. Welty and carried serially in **General Dynamics NEWS**, concluding Feb. 28, 1962. The reference states that the Guggenheim Fund "borrowed" Doolittle in 1928-29 to conduct the first blind flying tests, under a cockpit hood, and that the project caused "quite a stir."

The airplane was modified for Doolittle by Consolidated at Buffalo, N.Y., "and boy, did the Guggenheims scream about the bill!"

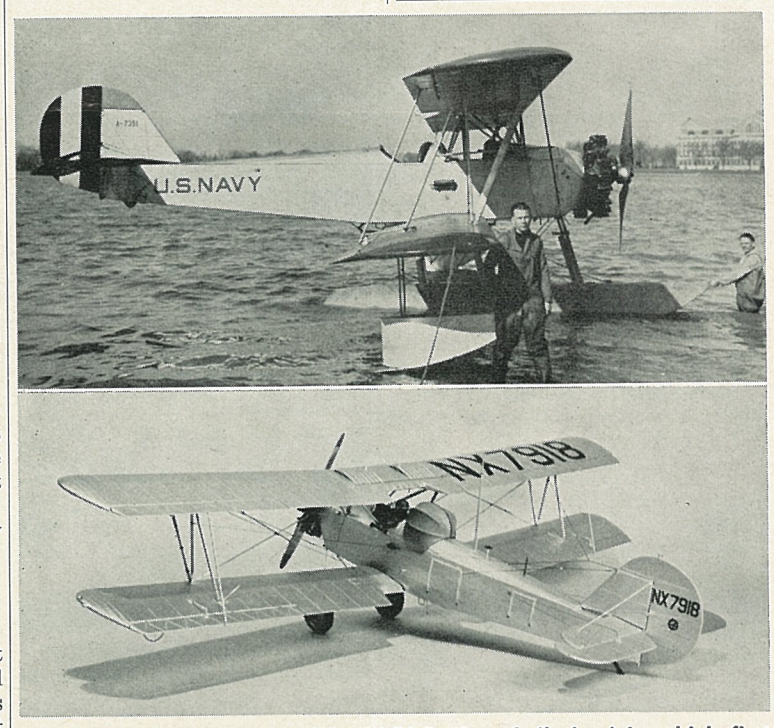
The Guggenheim project was called "Solving the Problem of Fog Flying." Front seat observer for the flight was Lt. Benjamin Kelsey (now general, ret.).

Thule F-102 Passes Thousand Air Hours

An F-102 flying with the 332nd Fighter Interceptor Squadron at Thule Air Base, Greenland, passed the 1,000-hr. mark last month.

No. 561494 became the first of the squadron's F-102 fleet to chalk that many hours in the air. Piloting the aircraft past the 1,000-hr. point was 1st Lt. Carl W. Bloug.

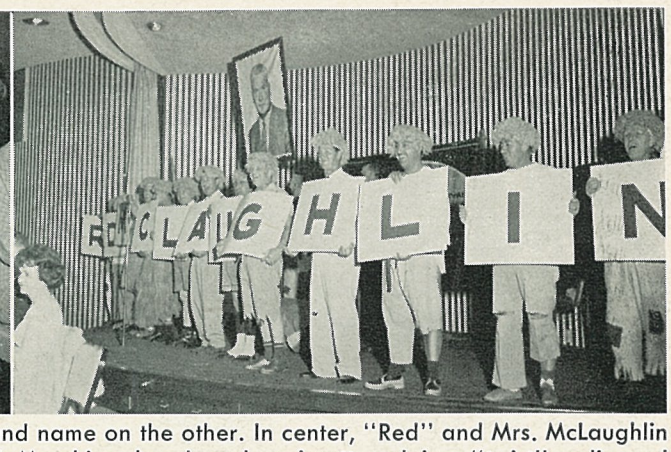
The craft had no maintenance cancellation for 60 days.



HOODED FLIGHT—Model of NY-2 aircraft (below) in which first instrument flight was made now hangs in National Air Museum. Photo above is of NY-1, Navy version of Consolidated ship.







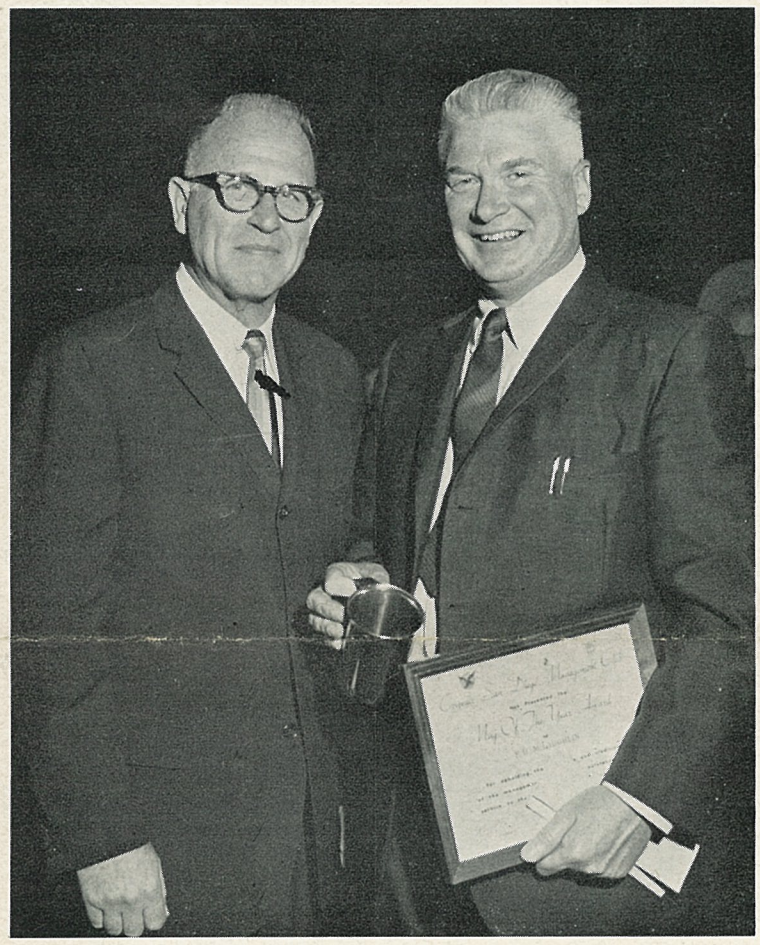
FANFARE—"Super colossal" production set stage for announcement of "Red" McLaughlin as GD/Convair Management Club "man of year" at May 16 ceremony. On platform are part of red-wigged "chorus line" with cards bearing McLaughlin's attributes on one side and name on the other. In center, "Red" and Mrs. McLaughlin admire prized "Mug." Marching band and majorettes doing "twist" enlivened presentation in Caribbean Room of El Cortez Hotel.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 11 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | 52 | Wednesday, May 23, 1962



MAN OF YEAR—F. H. McLaughlin beams as he holds "Mug" and plaque marking him as GD/Management Club's top choice for service to company. R. A. Neale, GD/Convair general manager (left), made presentation.

'Red' McLaughlin Man of Year For GD/Convair

A key GD/Convair production man was tabbed as a man of the year by General Dynamics/Convair Management Club.

F. H. "Red" McLaughlin received plaudits for his "extra punch" and morale-building faculties as he was given highest Management Club honors, "Mug of the Year," at May 16 festivities in El Cortez Hotel's Caribbean Room.

A marching band, "twisting" girls, red-wigged chorus line of McLaughlin's front-line supervision heralded an extravaganza worthy of a Hollywood production. Impresario Lee House directed from behind the scenes.

R. A. Neale, GD/Convair vice president and general manager, signaled start of the fanfare which led up to actual presentation of the "Mug."

A telegram from President J. H. Famme added his congratulations: "Red, the Management Club has made the right choice. You have really earned the Mug of the Year and your ability as a leader is a matter of record. But even more, you've always had that extra spark that instills in people a certain pride in the work they do. Your people respect you and they have been better employees because of that respect."

Coady's Frontier Marching Band led by their prancing majorette team trumpeted the procession to the stage. Picked up along the line of march was a motley-garbed group of red-headed "goons," all McLaughlin's backfield in primary, final assembly, mating, mockup at Plant 1 and 2.

As they lined up, they held cards bearing letters, which when turned over, spelled RED McLAUGHLIN. Such mottos as R—resourceful, E—effective, D—dynamite, pointed up his "virtues."

A four-foot square, bigger than life-size, picture was unveiled as McLaughlin was led lassoed to the front by House.

McLaughlin's service with the company extends back to Consolidated Aircraft days when he started to work as an assembler in Buffalo, N. Y., in 1934.

He rejoined the company after it came to San Diego and moved up through the ranks to factory manager, first at Plant 2 during F-102/106 years, and then to Plant 1 last year. He is presently manager of factory production for the division.

His almost 30 years with the company has been spent in top supervisory spots during the whole gamut of planes turned out at GD/Convair. He was superintendent and general foreman during B-24 program, L-13 project, PB4Y-2 days, and on into the T-29 program leading to jet interceptor and jet transport years.

Little Joe II Contract Won By GD/Convair

General Dynamics/Convair last week was awarded a contract to design and manufacture a launch vehicle that will be used to boost the Apollo spacecraft on unmanned sub-orbital test flights.

The contract was awarded by the National Aeronautics and Space Administration, Manned Spacecraft Center, Houston, Texas. The launch vehicle GD/Convair will make is called Little Joe II. The ultimate objective of the NASA Apollo program is to land men on the moon.

Before a manned Apollo spacecraft is launched, sub-orbital test flights are required to prove out necessary safety provisions. Little Joe II will be designed as an economical and expendable launch vehicle to propel the spacecraft on the sub-orbital flights.

"We think this is an important program and we will treat it as such," said J. H. Famme, president of GD/Convair.

Famme said that design activity on Little Joe II would start immediately and that work on the initial contract will extend to 1964.

Under the contract, GD/Convair will manufacture five of the launch vehicles and a launcher and will also provide the necessary ground support equipment.

J. B. Hurt, Little Joe II program manager at San Diego, said the launch vehicle will be powered by solid fuel rocket motors in a cluster arrangement. He said provisions will be incorporated so that they can be fired in stages.

Little Joe II will have a ballistic trajectory—like a bullet—but fins will give it a degree of aerodynamic stability. The vehicle will be designed for use with or without an attitude control system, Hurt said.

J. H. Thompson GD/Electronics Mgr. Operations

J. H. Thompson, former manager of manufacturing at General Dynamics/Electronics in San Diego, has been appointed manager of operations, William Lawrence, general manager, has announced.

Thompson succeeds H. L. Gates, who has resigned from the company.

A native of Rochester, N. Y., Thompson was assistant to the vice president for military products at the former Stromberg-Carlson division in Rochester from 1959 until his transfer to San Diego facility in March of 1961.



J. H. Thompson

His previous experience in the electronics field includes positions with General Electric Co., both at the Technical Products Division at Syracuse, N. Y., and the Light Military Electronics Division at Utica, N. Y., for several years.

Following five years of military service with the U. S. Army in the European Theater during World War II he was with Eastman Kodak at Rochester until 1953.

In other personnel appointments within GD/Electronics, N. E. Armstrong is now deputy program manager-REINS, reporting to W. S. Stroud, manager of the REINS program.

Armstrong replaces H. H. Stern, who is no longer with the company.

Padre Ticket Draw June 1

Ticket drawing for Padre home games through the month of June will be Friday (June 1), said J. K. Field, chief of employee services.

GD/Convair and GD/Electronics baseball fans may bring or send their entries to employee services, Bldg. 32, Plant 1, before that afternoon.

Free ducats will go to winners for the following games: June 5, 6, 7 with Spokane; June 8, 9, 10, 11, Tacoma; June 12, 13, 14, Salt Lake City; June 19, 20, 21, Vancouver; June 22, 23, 24, Portland.

Entries must contain name, clock number, shift, department number, location, plant extension. Only one entry per person is allowed.

Padres vs. Spokane Discount Offered

Exchange tickets, good for a 75-cent reduction to the June 5 Padres game against Spokane, will be on hand at GD/Convair employee services next week.

The tickets may be exchanged at the Westgate Park box office for either box seats or general admission. Reduced prices, with the discount, are $1.25 for reserved seats and 50¢ for general admission.

Electronics Sales Team Visiting Terrain Avoidance Customers

A trio of General Dynamics/Electronics "salesmen" climbed aboard a leased B-25 in mid-May for a leap frog tour which is taking them to air bases from Arizona to the East Coast demonstrating the GD/E terrain avoidance radar system.

E. C. Kranch, GD/E customer requirements representative; Roger Olson, system engineer, and James Boelens, design specialist, will visit nine Air Force bases before their return next week.

Piloting the B-25 is James Bissell of Tallmantz Aviation Co., Orange County Airport, Santa Ana, Calif., with Carroll Wright, also of Tallmantz, flight engineer.

Demonstrations were scheduled at Libby Army Air Field, Ariz.; Carswell AFB, Texas; Eglin AFB, Fla.; Cairns AAF, Ala.; Langley AFB, Va., Washington National Airport, D.C.; Wright-Patterson AFB, Ohio; Lambert Field, Mo.; Scott AFB, Ill.

The GD/Electronics system recently concluded what was termed a "most successful" flight test

(Continued on Page 2)

Open House Scheduled For Electronics Labs

Open house of the new ultra-clean General Dynamics/Electronics assembly area at Plant 1 San Diego will be held for all GD/Electronics people in San Diego and their families Saturday morning, June 2.

The 34,700-sq. ft. modern laboratory facilities on the ground floor of Bldg. 51 will be revealed between the hours of 9 a.m. and noon.

Parking will be available on the Sassafras St. and Pacific Hwy. lots, directly across from Bldg. 1, Plant 1. Shuttle buses will run from the lots to the south plant gate, adjacent to Lindbergh Field.

Employees will be required to show their ID cards upon entry.

Tours will be conducted through the newly-completed fabrication areas. Products of both GD/Electronics facilities in San Diego will be displayed. Refreshments will be served during the morning.

Move of electronic assembly operations from former quarters in Bldg. 4, which has been under way during the month, is now virtually complete.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due during the period May 16 through May 31.

Twenty-year: Dept. 6-100, W. T. Dorrance; Dept. 16-4, G. A. Beckstrand; Dept. 31, J. H. Boyd, K. J. Walker; Dept. 44-5, Elmer Haberkamp; Dept. 146, J. P. Kony; Dept. 171, C. C. Sellers, J. R. Taylor; Dept. 215, O. O. Lepper; Dept. 401-7, Esther P. Jones.

Fifteen-year: Dept. 14-3, Anida C. Swaine; Dept. 27-6, L. G. Schmidt; Dept. 31, H. J. Partusch; Dept. 44-3, Louise A. Rankin; Dept. 48, G. M. Barker, Annie B. Cooper; Dept. 129, C. H. Schaefer; Dept. 146, B. G. Farrar; Dept. 201, E. R. Cooper; Dept. 216, Mildred M. Carroll, Dept. 218, C. R. Mikula; Dept. 401-5, Elwood Carroll.

Ten-year: Dept. 3-8, L. T. Simpson; Dept. 6-743, J. K. Neary; Dept. 14, Fred Aguero, Abramo Dalponte; Dept. 15-0, F. J. Kennie; Dept. 16, Gloria A. Copley, E. L. Knowles; Dept. 24-4, C. U. Giusti; Dept. 25, H. H. Fourment, L. L. Horton; Dept. 26-2, B. J. Begue; Dept. 27, M. J. Fritz, Doris R. Hawkesworth; Dept. 29-1, W. A. Wells.

Dept. 48, H. L. Burt, Virginia R. Hunter, R. E. Snyder; Dept. 91, Helen M. Davis, B. J. Wood; Dept. 138, E. W. Armbruster; Dept. 140, Armando Zibiate; Dept. 148, F. L. Barton, A. O. Thibault; Dept. 180, H. O. Hale; Dept. 215, La Manda C. Henderson, Mabel K. Laird, C. A. Roy; Dept. 292-8, Shirley S. Douthit; Dept. 400-4, Georgette D. Rankin; Dept. 401-7, Marjorie H. McCarthy; Dept. 986-2, Marjorie E. Benson.

GD/ELECTRONICS

Twenty-year: Dept. 6-5109, Oscar Gniffe.

Fifteen-year: Dept. 7-5155, D. C. Fuller.

Ten-year: Dept. 2-5906, Ruth B. Flower; Dept. 6-5109, H. D. Simpson.

Promotions

CONVAIR

Promotions to or within supervision effective May 7.

Dept. 24-2, Facilities Engineering: To chief of facilities engineering, C. A. Ives. To facilities budgets and records supervisor, E. W. Manning.

HOLLOMAN AFB

Dept. 313-4, Model 8 Flight Operations: To asst. foreman, C. C. Reitzel.

GD/ADVANCED PRODUCTS

Dept. 986-2: To accounting supervisor, G. E. Barrow.

GD/ELECTRONICS

Dept. 1, General Manager's Office: To asst. to general manager, I. D. Sykes.

Dept. 6, Operations: To asst. foreman, J. A. Riley.

Retirements

CONVAIR

BENDER—Julius E., Dept. 133. Seniority date Aug. 7, 1950, retirement effective May 11, 1962.

CASE—Charles W., Dept. 48-01. Seniority date Jan. 19, 1951, retirement effective May 11, 1962.

CHARNOCK—Charles N., Dept. 149. Seniority date Sept. 27, 1950, retirement effective May 4, 1962.

JACKSON—Barbara G., Dept. 129. Seniority date Aug. 8, 1950, retirement effective May 11, 1962.

PATTERSON—Alfred T., Dept. 145. Seniority date Aug. 8, 1950, retirement effective May 11, 1962.

STANLEY—Floyd K., Dept. 401-7. Seniority date Feb. 24, 1953, retirement effective May 4, 1962.

Personals

CONVAIR

We extend our deepest appreciation to the host of General Dynamics friends of Ed Rominger, Dept. 31, for the many thoughtful and heartwarming kindnesses.
Mrs. Ed Rominger and family.

* * *

Sincere thanks to our GD/Convair and GD/Astronautics friends for their expressions of sympathy following the death of Everett E. Aldridge.
Mr. and Mrs. Allen B. Wood Sr. (Astro Dept. 101)
Mr. and Mrs. George W. Christian (Convair Dept. 6-3).

* * *

I would like to express my sincere appreciation to all of my husband's friends throughout General Dynamics for the many spiritual bouquets, contributions to the Heart Fund, lovely floral gifts, and expressions of sympathy. They have been a great comfort to me.
Palmyra Amaral.

Births

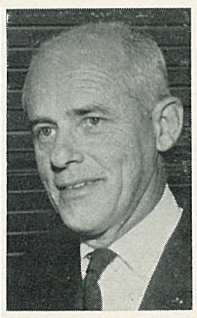
CONVAIR

STARK—Daughter, Robin Louise, 8 lbs., 7 oz., born April 27 to Mr. and Mrs. T. C. Stark, Dept. 6-761.

Deaths

CONVAIR

ALDRIDGE—Everett E., Dept. 401-4. Killed in auto accident, May 12. Survived by four daughters, three brothers, two sisters.



W. M. Thomas, Dept. 6-300, wears new 25-year service emblem presented by GD/Convair chief engineer, B J. Simons.

Rider-Driver

CONVAIR

RIDES WANTED—7 a.m.-3:30 p.m. Fletcher Hills, El Cajon to Plant 1. A. T. Patterson, HO-3-7026, after 4:30 p.m.

7:30 a.m.-4 p.m. Chula Vista to Plant 1. Hope C. Peterson, GA-2-9114, or plant ext. 2404.

7:30 a.m.-4:15 p.m. 6379 Lake Arago Ave. (corner of Lake Murray Blvd.) to Plant 1. Mickey Biancrosso, HO-5-3724, or plant ext. 1952.

7:30 a.m.-4:30 p.m. 74th & El Cajon area to Plant 1. Marie Davidson, HO-6-7341, or plant ext. 1767.

Tunnel Engineers Occupy New Space

Test engineers at General Dynamics/Convair's high speed wind tunnel moved early last week into new office quarters.

The 31x54-ft. concrete block structure is located adjacent to the main wind tunnel building at the seaplane ramp. It contains modern quarters for the 15 engineers now supporting wind tunnel test activities under W. T. MacCarthy, chief of aerodynamic laboratories.

Callahan Bros. were construction contractors with GD/Convair plant engineering in charge of plans, supervision, and interior work.

Convair Daughter To Play Piano Solo

Virginia Rubottom, daughter of H. W. Rubottom, chief of GD/Convair educational services, will be featured as piano soloist at the coming Civic Youth Orchestra concert, June 2, in San Diego.

She will play Mozart's Piano Concerto in D Minor K. 466.

Lawrence K. Christianson will conduct the orchestra in "Il Signor Bruschino Overture," "First Essay for Orchestra," "The White Peacock," and "Capriccio Espagnol."

The performance will be held in Russ Auditorium, 8:30 p.m. Public is invited free of charge.

Pomona Bond Buyers Upped to 51 Per Cent

Slightly more than half of all General Dynamics/Pomona employees are now purchasing U. S. Savings Bonds by payroll deduction, E. J. Glasson of employee services reported.

The number increased from 46 per cent before the annual "sign-up" campaign last month to 51 per cent at present.



"Next time have something smaller than a twenty-dollar bill.'



ELIMINATED—B. W. Kahla, GD/Convair chief of systems and procedures, hands Shirley Sorokie stack of reports, part of over 200 discontinued as unnecessary.

Paperwork Cost of $120,000 Eliminated by GD/Convair

Over 200 company reports have been discontinued at General Dynamics/Convair in a slash of paperwork since the first of the year, said B. W. Kahla, chief of systems and procedures.

Savings will reach nearly $120,000 a year on these alone, he estimated.

In the continuing evaluation of all reports issued within departments, 1,149 have been analyzed so far. Of these, 236 were termed duplications. Assigned to the task are 20 department monitors who, in conjunction with systems and procedures, help compile and review all paperwork.

Second phase of the program, now under way, will see a review of 238 reports selected by systems and procedures as making up the lion's share of total expense of division reports.

These cost $1,271,500 a year, 73 per cent of the total amount spent on reports. This includes time spent for preparation, material used, reproduction, distribution.

At present four value control teams are analyzing 12 of these high-dollar reports in an attempt to reduce overhead costs, said Kahla.

By last week department monitors said that 17 repetitive reports had been eliminated, saving $16,654.

"The continued effort of department monitors is indicative of the interest throughout the whole division in the drive to cut overhead expenses," Kahla commented. "We intend to use every effort in reducing all reporting operations to the absolute minimum."

New GD/E Radar System Demonstrated For FW

GD/Electronics new terrain avoidance radar system, housed in the nose of a B-25 bomber, was put through its paces for a number of employees and guests at GD/Fort Worth last week.

Pilot Lloyd J. Bissell flew the white, converted bomber about 400 feet above the ground from Fort Worth to points near Stephenville and Possum Kingdom Lake May 15.

Aboard on the first demonstration flight were Maj. C. R. Keogh and Capt. T. H. McMullen of the Air Force office at GD/Fort Worth; R. L. "Dick" Johnson, manager of flight; and J. E. Walker and R. P. Tuttle, aerosystems engineers.

On a second demonstration the same day, the B-25 carried Lt. Col. Joe Thomson and Maj. A. Z. Doka of the Air Force office at GD/Fort Worth; George Davis, GD/Fort Worth test pilot, and several Chance-Vought engineers.

On May 16, a demonstration was put on for engineers of Bell Helicopter Co.

"Flights were short to conserve time, but were made over the roughest terrain in the nearby area," said Edward Kranch, customer requirements representative of GD/Electronics.

Electronics Team Visits Customers

(Continued from Page 1)

program extending over the last couple of months.

Searching out the most critical conditions — rugged mountains, blinding clouds—the B-25 bomber equipped with the radar flew over 30 test missions during a six-week period. Over 50 representatives of potential military and civilian customers were taken aloft as observers.

Results proved that the TAR system enables pilots to safely fly high-speed craft on terrain-hugging missions, as low as 100 feet.

The pilot may fly the aircraft manually, use the autopilot, or use the autopilot-manual override system. For pilot-controlled flight, the computer operates a simple indicator which tells the pilot when to climb or dive to maintain a fixed altitude above the ground and yet avoid all obstacles.

The system is suitable for all types of civilian aircraft as well as military craft, including supersonic jets.

Con-Trib-Club Votes $3,250 to Charities

Four San Diego area organizations were voted a total of $3,250 from General Dynamics/Convair Employees' Con-Trib-Club at the May 15 committee meeting.

Donations of $1,000 each will go to Children's Dental Health Association, Girl Scout Council, Jewish Community Center. Both the Girl Scout Council and Jewish Community Center will use their monies for their summer camping programs.

Greenwood Youth Center of Southeast YMCA will receive $250 to purchase tables and chairs for its study hall. The center is offering an evening guidance program in math, language, English, chemistry.

New Magic Kingdom Cards Distributed

New Magic Kingdom Club membership cards for Disneyland go into effect June 1. They are available to GD/Convair and GD/Electronics people at employee services, Bldg. 32, Plant 1.

They replace the former gold cards which expire the end of this month. To insure continuance of club privileges, employees must obtain the new cards.

Disneyland goes on its summer schedule today (May 23), open to the public seven days a week. On May 30, Memorial Day, hours will be 9 a.m. to 9 p.m.

Clubmen Elect Fink President

E. R. Fink (Dept. 25-1) heads the new slate of officers chosen to preside over affairs of General Dynamics/Convair Management Club for the 1962-63 term.

Election results, announced at the May 16 meeting, saw P. A. Hamm (Dept. 29-4) taking the vote for first vice president.

Second vice president is Ralph Montgomery (Dept. 21-1). Harry Lund (Dept. 23-3) won the nod for recording secretary. New financial secretary is Joe Freeman (Dept. 45-0). Treasurer is M. L. Sweeney (Dept. 45-0).

New three-year board of control member is D. L. Macey (Dept. 45-0). G. O. Couchman (Dept. 100) will have a two-year term on the board.

Four chosen as one-year members of the board are J. R. Benedict (Dept. 140); C. M. Durst (Dept. 3-1), W. S. Nader (Dept. 22-0), L. C. Stuckey (Dept. 48-09).

SYKES TRANSFERRED TO GD/ELECTRONICS

Ira D. Sykes Jr. has assumed the post of assistant to William Lawrence, general manager of General Dynamics/Electronics division at San Diego.

Sykes had been assistant to the president of GD/Convair for planning and marketing since early this year.



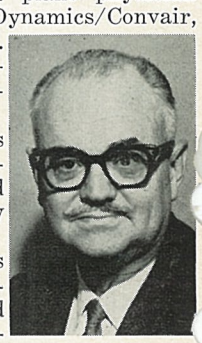
Ira Sykes

According to an announcement by President J. H. Famme of GD/Convair, Sykes' responsibilities will be assumed by H. C. Chambers, director of marketing, who now will head marketing and business planning functions for the division.

Sykes joined the company at GD/Pomona as a long range scheduler in 1956. He was named program planning administrator in 1960 and transferred to GD/Convair as manager of long range planning in March of last year.

DR. CLARKE NAMED PLANT PHYSICIAN

Dr. G. M. Clarke has been appointed chief plant physician at General Dynamics/Convair, announced D. C. Wilkens Jr., director of industrial relations.



Dr. Clarke

He succeeds Dr. F. M. Amaral, who died suddenly early this month.

Dr. Clarke is a native of Moline, Ill., and holds a M.D. degree from the College of Medical Evangelists, Los Angeles, Calif. He completed his training in public health and industry at Yale University.

He is a licensed physician and surgeon in the State of California, joining GD/Convair as a physician in May of 1957.

Discounts Offered To Ice Capades Show

There is still a limited supply of discount coupons at CRA headquarters for the Ice Capades' special showings for GD/Convair and GD/Electronics people and their families next week.

The reduced prices — 50 cents off adult reserved seats — are good only Tuesday (May 29) or Wednesday (May 30).

The CRA coupons are good as long as seats are available and may be exchanged at Westgate Park or the downtown box office in U. S. Grant Hotel lobby.

Regular prices are $4, $3.50, $3, and $2.50.

Performances of the Ice Capades are at Westgate, starting at 8:30 p.m. each night.

General Dynamics NEWS

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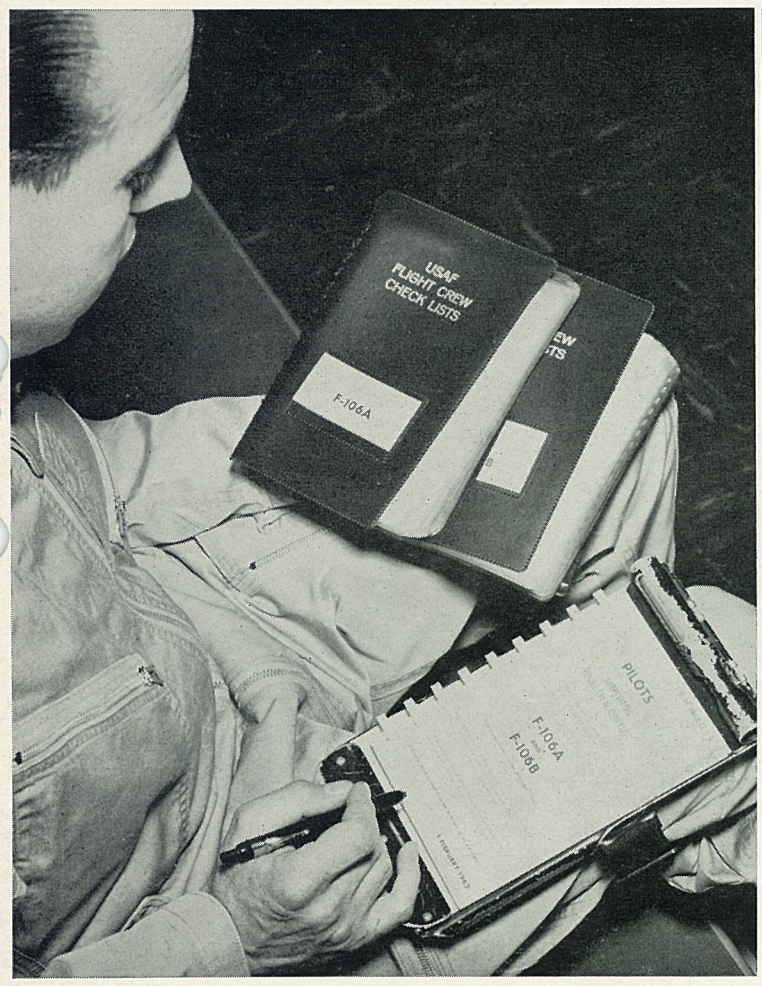
Convair Editorial Offices, Bldg. 32, Plant 1, GD/Convair, Mail Zone 1-320, P.O. Box 1950, San Diego 12, Calif. Telephone CYpress 6-6611, ext. 1071. Staff: Grayce Fath, Helen Pemberton, Gil McCoy.

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Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: James Combs Jr., editor; Carol Colbert. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

Affiliated editions of General Dynamics NEWS are published in Rochester, N. Y., covering GD/Electronics and GD/Telecommunication, editorial offices, 100 Carlson Road, HUbbard 2-2200, ext. 2555, Gordon Morison, editor.



PILOT AID—C. M. Keys, GD/Convair technical publications specialist, shows handy new GD/Convair-developed pilots' in-flight checklist clipped to knee pad, in comparison with former bulky binder type.

New Style of Checklist Convenient For Pilots

Air Force pilots flying F-106s are getting a boost with a new streamlined pilots' checklist, developed in General Dynamics/Convair technical publications.

Howard R. Kennedy, manager of GD/Convair technical publications, announced last week that a new style checklist has been completed and is now officially being distributed to all F-106 commands.

It compresses material contained in the former standard Air Force binders (one for the F-106A and one for the F-106B) into a single handy, durable form designed to simplify pilots' in-flight operations.

Revision was done during the last year under a continuing Air Force study contract from SAAMA for keeping checklists on Convair craft up to date, Kennedy explained.

"It was a joint effort between Capt. W. S. Seufert, Chief of Operations and Support Branch at SAAMA, and our publications group in line with GD/Convair's continuing program to improve necessary flight crew material," he said.

The checklists, carried in the plane's cockpit at all times for constant reference by the crew, are abbreviated forms of flight requirement information condensed from voluminous flight manuals, since it would be impractical for a pilot in a swift-flying jet to consult a large flight manual.

The newly-developed type, printed in black on bright yellow stock, is 4½ inches wide and 7 inches long. It is small and compact enough to be clipped to the pilot's knee pad.

The former in-flight books were an acetate filler type. By the time the pilot inserted required informations and notes, the binder became awkward and cumbersome.

Now, with a flick of the wrist the pilot can locate any information he needs—either for normal or emergency procedures. Laminated pages in front and back allow the pilot to jot down flight planning data.

The red-bordered emergency section, in the front of the book, is visually indexed, arranged with each succeeding page longer by a quarter of an inch. Emergency conditions are listed at the bottom of each page so that the pilot can flip immediately to the right page.

Pages of the second section, containing normal procedures, are slightly wider, making it easier for the pilot to flip past the emergency section when not needed.

Added innovation is the flight performance appendix with performance charts. These enable the pilot to compute takeoff, climb, cruise, acceleration, descent, landing, more efficiently.

The present checklist evolved from a GD/Convair-funded prototype designed by technical publications and tested by F-102 pilots in 1958.

Kennedy emphasized that "this is a definite step forward in standardizing and simplifying checklists to the extent that the Air Force is considering the new format for all high-performance aircraft."



"Don't be silly! That's not an Atlas! . . . An Atlas is a *MISSILE*."

AIRCRAFT FATIGUE MANUAL ORDERED IN NAVY CONTRACT

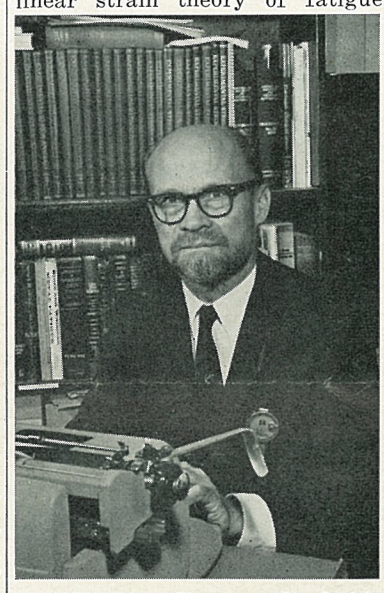
A General Dynamics/Convair fatigue research specialist has been commissioned to write a design manual on fatigue-resistant aircraft structures for the Navy through a contract received by GD/Convair from the Naval Air Material Center, Philadelphia, Pa.

The contract, amounting to nearly $20,500, is the result of a proposal submitted by Clarence R. Smith, who has researched in the field of fatigue of metals and structures at GD/Convair over the last 10 years.

The book, to be titled "Fatigue Manual for Aircraft Designers," will be available through the Government Printing Office, Washington, D. C., as a handbook for designers. First draft is to be completed within 10 months.

Smith explained that content will deal with do's and don't's, illustrated with photographs of stress and failure. He is now touring different sections of the country, Fort Worth, Dallas, St. Louis, Cincinnati, Columbus, Wichita, collecting material.

At least five Navy and Air Force study contracts in fatigue work have come to GD/Convair through Smith's efforts. Recently concluded was a research contract from Air Research Laboratories, Wright -Patterson Aeronautical Systems Division, on his linear strain theory of fatigue life prediction.



AUTHOR—Clarence R. Smith, GD/Convair fatigue research expert, compiles material going into "Fatigue Manual for Aircraft Designers," commissioned by Navy.

An extension, which will allow another year's testing of his original Smith method, follow-on to the linear strain theory, was received the first of this month. Dollar value was approximately $30,000.

In addition, a Navy contract, amounting to $28,000, for application to full-scale structures was received the latter part of March.

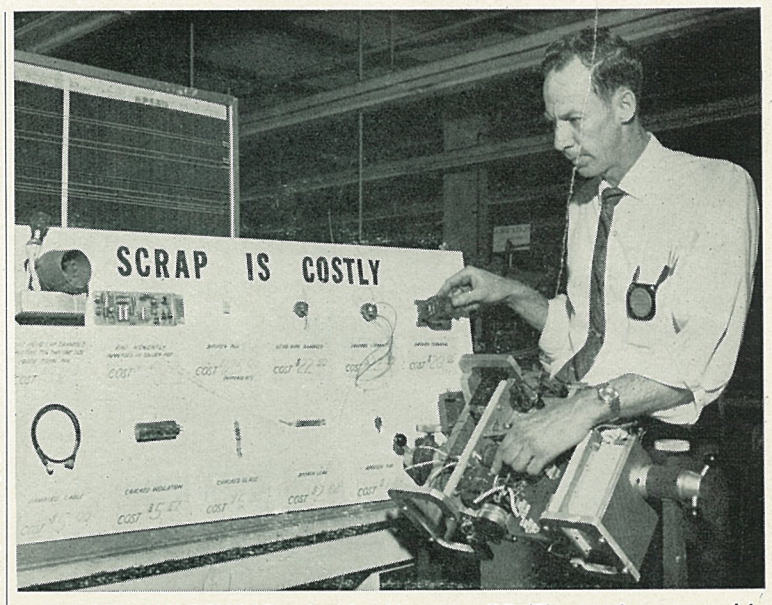
Smith was the first to establish the linear strain theory of fatigue life prediction which assumes that the strain at a concentration is linear beyond the yield point, provided that the adjacent material is still in the elastic range.

His first presentation was given before the Society for Experimental Stress Analysis in 1954.

His Smith method was first presented at a meeting of the Society of Automotive Engineers in New York, April of 1961.

Smith joined structures laboratories at GD/Convair 20 years ago, the last 10 of which has been devoted exclusively to fatigue investigation. He was responsible for design of the first fatigue test machine ever used within the division. For several years he has concentrated on methods of improving fatigue aircraft life and his developments, thin auxiliary doublers, edge-driven rivets, have been incorporated in structure of Convair 880s and 990s.

Save Material — Don't Throw Your Job Away!



WASTE WATCHING—L. J. Moran, GD/Electronics assembly foreman, indicates transformer, unusable because of broken terminal, and part it plays as component in modulator unit, worth several thousand dollars, in drive to control shortages.

Control Placed on 'Free Stock' To Avoid Risks of Shortages

"Free stock" will no longer be "free" in General Dynamics/Electronics assembly at San Diego.

The 1,500 different items most commonly used in assembly of costly electronic units have been removed from uncontrolled status, said H. O. Patchel, manager of production control.

These items, all $2 or less in value, are standard hardware—capacitors, resistors, nuts, bolts, special washers—which go into systems valued at thousands of dollars when completed.

"'For want of a nail the shoe was lost . . .' could very well point up the importance of keeping a sharp eye on the smallest item going into the complex systems put together in our electronics assembly area," Patchel stressed.

"We feel that more of the small components have been drawn from open stock than actually needed, causing shortages and, consequently, risks of production delay.

"Lack of a 1¢ item could easily hold up a quarter-million dollar system!"

Under the new system, all such items will be in standard inventory. Stockroom clerks will distribute a five-day supply to bins at each of the 110 assembly stations every fifth day. A check will be made every day to insure that each assembler has adequate stock on hand, depending upon need.

Anywhere from one to 30 standard hardware items go into a single assembly, with 500 or more different components used daily.

"This is but one more step in our overall program to keep all production operations under close surveillance and insure delivery on schedule," Patchel concluded.

GD/Convair Value Control Manager Voted First President of SAVE Chapter in SD

H. P. Williams, manager of value control at General Dynamics/Convair, has been elected first president of the newly-formed San Diego Chapter of SAVE (Society of American Value Engineers).

Election of pro tempore officers took place at the May 8 meeting in Convair executive dining room.

Another General Dynamics man, C. W. Christie of GD/Electronics at San Diego, was seated as second vice president of the new chapter, the largest accepted into the national organization. It now has a roster of 46 with charter memberships to be open for another month or two.

Other officers, all associated with value control programs within their own companies, are R. D. Allen of Ryan Aeronautical Co., first vice president; D. D. Shirk of Solar, secretary; H. L. Braasch of Ryan, treasurer.

Besides General Dynamics divisions in the San Diego area, other companies represented include Ryan, Solar, Rohr, United Fund of SD County, California General, Inc., Western Gear Corp, Kinetics Corp., Rofran Design.

A rules and bylaws committee was appointed at the organization meeting and a schedule of regular meetings will be set up, said Williams. In addition, plans are under way for a series of value engineering seminars for members.

Value Engineering Discussion Topic

B. P. Schroeder, educational services supervisor at General Dynamics/Pomona, served as a discussion leader at the recent annual meeting of the American Society of Training Directors at Dallas, Tex.

Subject of the discussion was "Value Engineering Training." The meeting was conducted May 14-18 at the Statler Hilton Hotel in Dallas.



SAVE OFFICERS—G. W. Gebhart, National SAVE director (seated at left), hands gavel to H. P. Williams of GD/Convair, newly-elected president of San Diego Chapter. Other officers, standing from left, are H. L. Braasch of Ryan Aeronautical, D. D. Shirk of Solar, R. D. Allen of Ryan, C. W. Christie, GD/Electronics.



QUICK SUCCESS—Although in dramatic role for first time, Marian Wallace of GD/Astronautics was instant success in Old Globe (San Diego) Theater production of "A Raisin in the Sun."

GD/Astro Girl Scores Quick Hit In Her First Stage Production

This may astonish those who have seen Marian Wallace's characterization of "Ruth" in the current Old Globe Theater (San Diego) presentation of "A Raisin in the Sun," but she's making her first dramatic appearance!

A native of Indio, Marian graduated from Riverside City College and joined General Dynamics/Astronautics about 10 months ago in product support (support publications).

Previously, her talents have been noted in the field of singing, both as a soloist and member of small and large groups, and public speaking. She has taken part in many talent shows, but had never before tried drama.

When Director Craig Noel held readings for the show, both she and her husband turned out. Marian won one of the better supporting roles.

Marian is not sure if her first show will turn out to be her last.

"It takes an awful lot of time," she said. "And I really prefer to sing and do readings."

Visitors Tour Lab Facilities

General Dynamics/Convair laboratory facilities at the seaplane ramp were toured last week by a group of aerodynamics specialists from throughout the country.

The GD/Convair visit May 10 was a follow-on to a two-day meeting at GD/Pomona which saw 45 representatives from industry, universities, Naval installations gathering for the 46th Bumblebee Aerodynamics Panel session.

Those who traveled on to San Diego for an inspection of GD/Convair test facilities were Dr. L. L. Cronvich, chairman of the Bumblebee Aerodynamics Panel, Applied Physics Laboratories, Johns Hopkins University, Silver Spring, Md. Others from APL were C. S. Perry, panel secretary; R. H. Cramer, E. T. Marley, R. E. Walker, J. Jellinek.

Also, J. Darling, Naval Ordnance Laboratory, Silver Spring, Md.; Dr. M. J. Thompson, head of the aerospace department, and P. H. Miller, both of University of Texas; B. A. Bishop, head of aerodynamics, Bendix/Mishawaka, Ind.; W. Hatalsky, aerodynamics design specialist at GD/Pomona.

ASME Chapter Elects GD/Astro, Atomic Men To Club Positions

General Dynamics men elected officers of San Diego chapter, American Society of Mechanical Engineers (ASME), were announced recently by retiring nominations chairman P. J. Swanson, GD/Astro Dept. 510-2.

New vice chairman is Astro's G. L. Kugler. A. L. Habush, General Atomic, is secretary-treasurer. Named to the board of directors is R. M. Kuhns, Astro Dept. 578-3.

General Atomic's G. E. Kidd, and C. G. Erickson, Astro Dept. 593-6, were named to the nominating committee, and R. O. Morin, Astro Dept. 541-7, is publicity and newsletter chairman.

Dynamics Plants Will Close May 30

General Dynamics plants will close for the Memorial Day holiday next Wednesday, May 30.

All facilities will suspend work for the one day, except for essential maintenance and industrial security functions. Work will resume at regular shift hours Thursday.

License Identifies Pomona Engineer

W. A. "Bill" Dean, General Dynamics/Pomona project staff engineer, assigned to the Ships Qualification Assistance Team (SQAT) on the East Coast, is the envy of his team associates.

Dean lives in New Hampshire where special alphabetical auto license plates can be obtained. So, the license on his Corvette reads: "SQAT"!

Delta 880 Sets More Records

A Delta Air Lines Convair 880, on the inaugural jet flight from Puerto Rico to California, set an official speed record between San Juan and New Orleans May 3.

The Convair jetliner made the run in 3 hours, 23 minutes, and 45 seconds.

It was the second official mark of the day. Earlier, on the New Orleans to San Juan inaugural flight, the 1,721-mile distance was covered in 3 hours, 5 minutes, and 7 seconds. Speed averaged 582 miles per hour. Both flights were clocked officially by the National Aeronautic Association.

The 880 on both flights was the "Delta Queen," which holds the still-existing transcontinental record of 3 hours, 31 minutes, 54 seconds on its delivery flight Feb. 10, 1960, between San Diego and Miami, Fla.

The latest records were the eighth and ninth official marks held by Delta Convair 880s.

Biron Appointed To C of C Office

Robert H. Biron, General Dynamics vice president, was chosen a vice president of the San Diego Chamber of Commerce at an organizational meeting of directors last week.

He will serve with Hamilton Marston and William E. Quirk, other newly-elected vice presidents. Milton F. Fillius Jr., was elected president. All take office July 1 and serve for the fiscal year.

Biron has been active in community and civic affairs for a number of years. He was singled out as the first recipient of the annual award given by the Chamber for the most significant contribution to community development in recognition for his work when heading the group's University of California committee in 1958.

Members Vote in June On ISA and ARS Merger

During June General Dynamics Corporation members of the Institute of Aerospace Sciences (IAS) and the American Rocket Society (ARS) will vote within their own chapters on a proposed amalgamation.

The idea of bringing together technical societies within specialized fields of scientific activity which may overlap and duplicate, has been under nation-wide study for some time. Duplication has been described as costly in money and manhours and also detrimental to the quality of work performed by the societies.

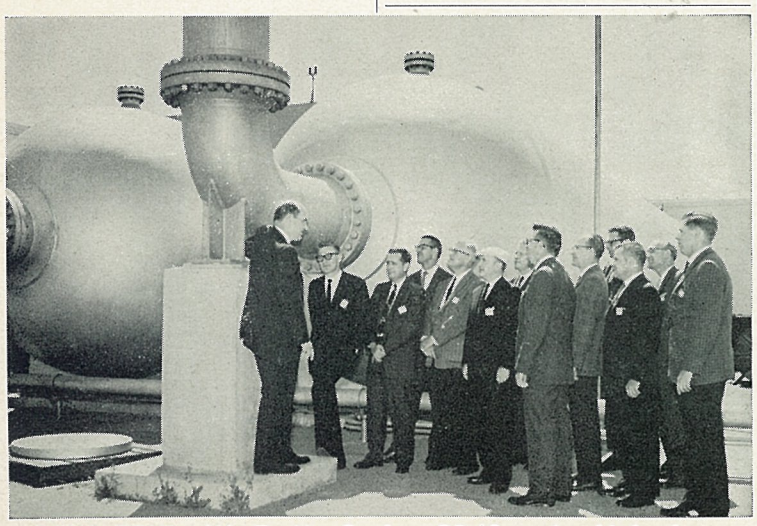
Long a strong supporter of professional technical and scientific societies, the Aerospace Industries Association (AIA) has urged the study of amalgamation.

The Board of Governors of AIA last November adopted a resolution stating its position and suggesting professional societies in aerospace industry review their activities and operations with an eye to eliminating duplication.

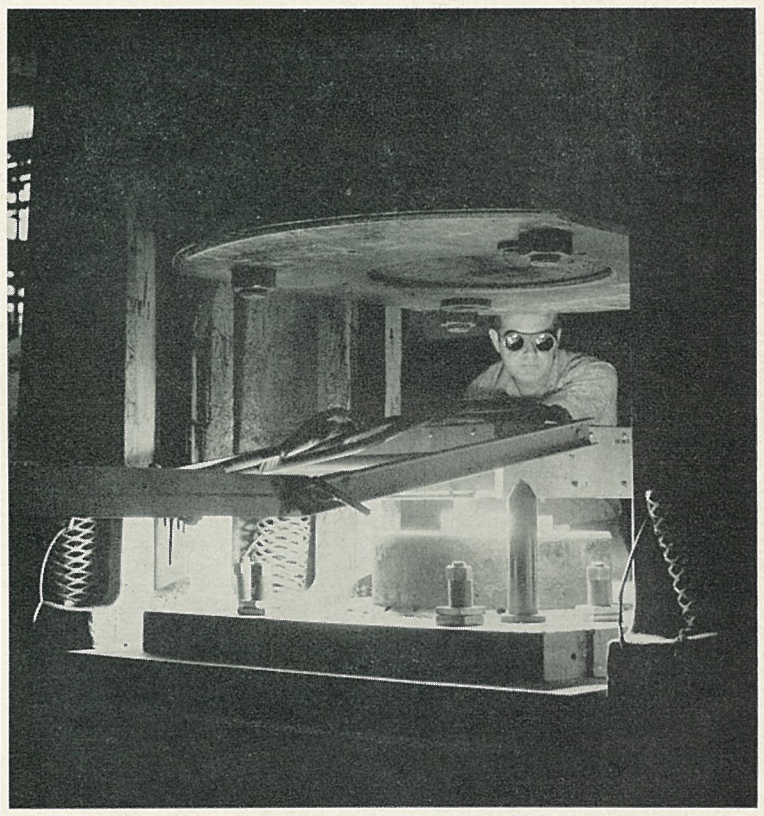
W. W. Withee, GD/Astronautics vice president-research and engineering, recently joined top industry representatives attending the Sixth Missile and Space Council meeting staged by AIA in Washington, D. C. He represented General Dynamics, attending for Mortimer Rosenbaum, executive vice president of GD/Astro.

"The council voiced strong support of the AIA resolution and also the proposed amalgamation of the two top groups voting in June," Withee said.

"General Dynamics has never advised its employees on how to vote on any issue," Withee said. "However, individual members of IAS and ARS are urged to give special attention to this subject prior to exercising their voting rights next month."



RAMP TOUR—W. T. MacCarthy, GD/Convair chief of aerodynamic labs (far left), explains operations of high speed wind tunnel to group of aerodynamic specialists from all over country during inspection of division laboratory facilities.



HOT FLASH—Battery of quartz glass heat lamps brings material being formed to high temperature in matter of seconds right on drop hammer. Reflected in blinding glare is George Rosen, setup man in GD/Convair Dept. 101.

Quick-Heat Method Adopted In Manufacture of Jet Parts

First application of a quick-heat method in forming of jet transport parts is being checked out at General Dynamics/Convair Plant 1.

Applied manufacturing research is testing performance of a heat lamp power cart using quartz glass heat lamps on fast heating of titanium sheets for forming right in the drop hammer. Parts will go into Convair 990 nacelles.

The quartz lamp method of heating can heat a sheet of such tough material as titanium, positioned on the hammer bed, to 1,200 degrees Fahrenheit in 7 to 30 seconds, depending on the material thickness.

With the conventional method, both die and part must be heated in an oven for an hour to bring them to the same temperature. Then, by the time they would be assembled, placed in the impact drop hammer, and formed, temperature would drop below the best forming temperature needed, said H. A. Buehler, senior research engineer.

A bank of 24 General Electric T-3 quartz glass heat lamps, which can generate 62,500 watts of heat over a 10x25-in. area, is extended over the material located on the die. Electrical power is automatically controlled by the power cart.

At the time the heat bank is retracted, safety guards are released allowing the hammer to come down and form the part.

Buehler, who has been involved in aerodynamic heating tests over the last five years, said that the same method was in use during the interceptor program at Plant 2 and in simulation of high temperatures during static and fatigue tests of the F-106.

Patent Personnel Involved in Shift

C. R. Brown of General Dynamics Corporation patent office has been assigned to GD/Astronautics as division patent counsel in a shift of Corporate Office patent personnel effective this week.

John Hazelwood goes to GD/Pomona as division patent counsel there.

Brown, who reports to H. Cushman Dow, GD/Astro division chief counsel, will handle patent matters for both GD/Astro and GD/Convair divisions.

His staff consists of Alfons Valukonis, Jerome Rockwood, Stan Kerr. For the present, they will continue to be headquartered in Bldg. 19 at San Diego.

Secretary at GD/FW Wins Story Contest

Mrs. Patsy Wilson, secretary at GD/FW, was a winner in the annual creative writing contest at Texas Christian University.

Her 2,000-word short story, "I-Man," was judged first in its category. Mrs. Wilson and other winners were honored at a luncheon May 10 on campus.

Mrs. Wilson is working toward a degree in English.



UNVEILED—First public demonstration of S-C 3070 electrostatic printer attracted attention to GD/Electronics display at recent Spring Joint Computer Conference, San Francisco. GD/E representatives explaining equipment to spectator at left are Ron McClure, R. W. Smit, Ken Gootgeld.





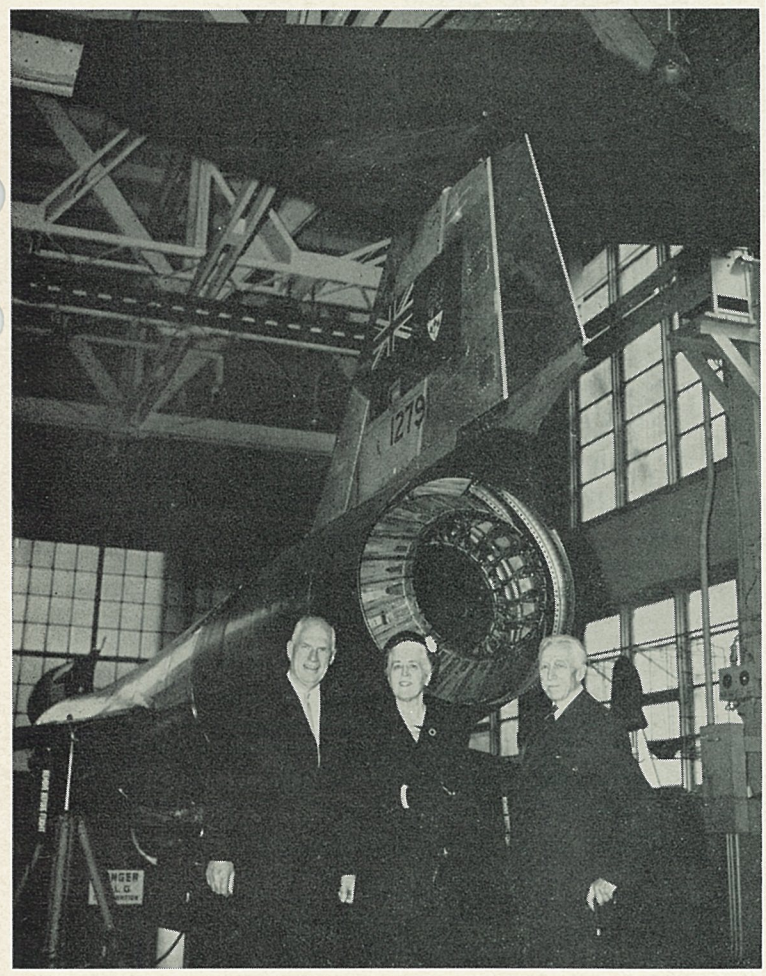




CLUB ACTIVITY—Management Clubs active at different General Dynamics divisions engage in wide variety of projects. GD/Fort Worth's club is particularly outstanding in civic works. Left above illustrates club's sponsorship in gathering 15 tons of food and clothing for hurricane Carla victims. Most meetings have educational tone, such as top center when panel of GD/Convair test pilots discussed experiences. But some have had dose of slapstick, such as at right! Center below shows club leaders meeting in San Diego last year. GD/Fort Worth and GD/Convair groups both celebrate 20th anniversaries this year.



HEFTY SWING—Christening USS Lafayette, Navy's largest Polaris missile-firing submarine at GD/Electric Boat shipyard in Groton, Conn., is Mrs. John F. Kennedy. In background is Roger Lewis, General Dynamics president.



CANADAIR VISITORS—His Excellency Major General George P. Vanier, Canada's Governor-General and Commander-in-Chief, and Madame Vanier visited Canadair last month and toured CF-104 line with J. Geoffrey Notman, Canadair president. Appointed by Queen Elizabeth (as Queen of Canada, not Queen of Britain) His Excellency is, in effect, "resident acting sovereign." He is a French-Canadian.

Two Dynamics Management Clubs Observe Their 20th Anniversaries

Four General Dynamics divisions now have six Management Clubs, and there may be more if opinion surveys conducted at Rochester, N. Y., are favorable.

Personnel of GD/Telecommunication and GD/Electronics at Rochester were approached during May for their reaction, and two National Management Association representatives, John W. Brown and Ted Harnack, visited the plants for exploratory conferences.

The possibility of new club organizations comes in an anniversary year for both GD/Convair and GD/Fort Worth clubs—their 20th. The GD/Convair club was founded in March, 1942, with a nucleus of 49 members. At one time in its history the club topped 3,000 members. A close second in seniority was the GD/Fort Worth club, formed in June, 1942, which also grew rapidly and peaked about 3,000 in 1960-61.

The GD/Pomona club was chartered Sept. 21, 1951, and has a membership of over 900, while the GD/Astronautics Management Club at San Diego, was chartered June 1, 1958, when approximately 800 members of the GD/Convair club transferred to the new organization.

GD/Astro's home club presently has 2,600 members, while the Astro AFMTC Club at Cape Canaveral, chartered in January, 1958, has 225. Another Astro club, operating at Vandenberg AFB, chartered in April, 1960, has 275 members.

Partly professional, partly community service and partly social, the clubs both young and old have amassed scores of commendable accomplishments over the years as affiliates of NMA. Club scholarships have helped dozens of sons and daughters in college, club gifts have placed TV sets in hospitals, club social events have brought together management members—and their wives, too—in a manner and setting not possible without club sponsorship.

Although any inference that one club was "better" than another would inevitably draw fire, GD/Fort Worth can point to three consecutive years during which its club was ranked No. 1 ("The Best Company Club in the Nation") by NMA. The awards were based mainly upon the club's many civic and educational activities.

During this time the club sponsored the Texas Christian University-Management Club management certificate program. Under the program, employees earn an associate certificate for completing 30 semester hours of prescribed management courses; a certificate for 60 semester hours; advanced certificate for 90 hours; and a bachelor's degree with a major in management for completing the entire curriculum. Recently, advanced degrees were being offered under the program.

The educational program is stimulated by the company tuition-refund program and the club's partial-tuition-refund plan.

Also noteworthy among GD/FW club activities is the annual "Fix-a-Toy" pre-Christmas project during which thousands of toys are repaired and distributed to needy children city-wide.

Other activities in which the various clubs take part include sponsorship of Junior Achievement Companies, speakers bureaus, management libraries, industrial tours, Toastmasters Clubs, etc.

Larry Lawson, former president of the GD/Convair club and active for many years in club circles, commented recently:

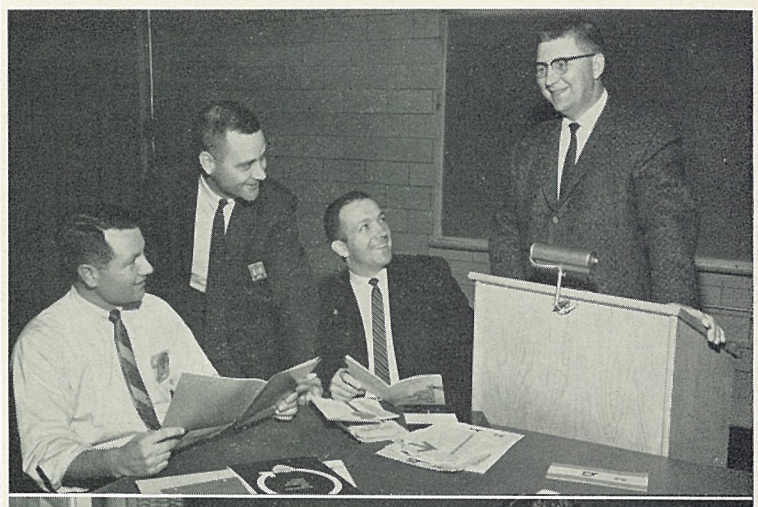
"The civic accomplishments, educational opportunities, and good works of all our clubs are impressive, of course; and the assist to such company-desirable objectives as cost reduction, through the annual President's Award, is considerable. However, from long association with club affairs, I really believe that the most important single benefit from club life is the informal social contacts which are achieved through club meetings and affairs.

"Do not discount these as trivial. It simply is a great deal easier to do business with men whom you know as away-from-the-job friends than it is to do business with those you know only in professional association. I do not mean this in personal advancement, but in doing a more efficient job on the job."

Hustler on Display Armed Forces Day

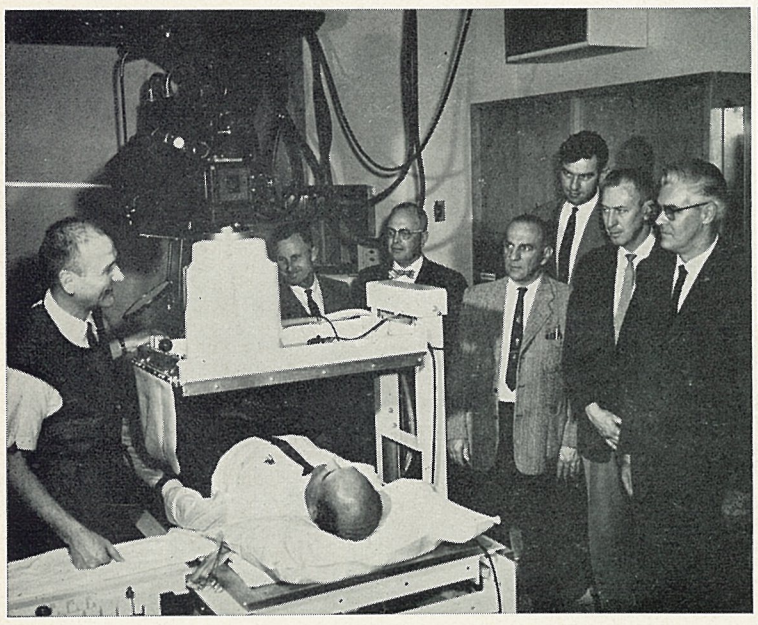
A General Dynamics B-58 joined other late model craft as targets of trigger-happy camera bugs at Armed Forces Day open house at Edwards AFB, Calif., last weekend (May 19-20).

Besides the Fort Worth-built Hustler, such planes as the B-52H intercontinental bomber, T-38 Talon supersonic trainer, X-15 manned research rocket planes were available for picture backgrounds in a relaxation of the no-picture-taking rule.





LOOKING AHEAD—Top photo: committee members considering possible Management Club for GD/Electronics at Rochester examine brochures. From left are Lewis A. Corwin, Warren Bastian, Paul M. Neuman, Sigurd Swanson. Lower photo: similar study is under way at GD/Telecommunication as Harvey Leach, Earl Roesch, Roy Goetzman look over publication of GD/Astro club.



DRY RUN—GD/Astro and GD/Convair Con-Trib committee members watch demonstration of motion picture X-ray equipment in heart center of Sharp Memorial Hospital. Left to right are Dr. W. J. Kuzman, heart center director; E. R. Fink and J. K. Field, GD/Convair; David Haslanger, J. T. Schultz, J. R. Mitchell, GD/Astro; Dean Strange, GD/Convair. Keith Sears of GD/Astro takes part of patient.

Astro, Convair Con-Trib-Clubs Unite in Heart Center Donation

Two General Dynamics Corporation Employees' Con-Trib-Clubs have donated $8,000 for new equipment being installed in the heart center at Sharp Memorial Hospital.

Checks for $4,000 each from GD/Astronautics and GD/Convair Con-Trib-Clubs to the San Diego County Heart Association have been applied on purchase of motion picture X-ray and research equipment.

Dr. W. J. Kuzman, director of the heart center, said a mirror viewer on the new equipment enables a doctor to see X-ray pictures of a patient's heart action while a catheter is being inserted into the heart chambers through an artery in the arm. Motion pictures can be made of the whole procedure, including tracing of an inert liquid released in the heart through the catheter tube.

In a few minutes, a doctor can study 35 mm motion pictures as an aid in diagnosis and surgery. The former method, using several X-ray negatives, took about an hour-and-a-half. It takes no longer than 15 minutes now for a heart specialist to study action pictures of the heart.

Total cost of the new equipment is $45,000. Of this amount, GD/Astro and GD/Convair Con-Trib-Clubs have so far donated $18,000. Major units include an X-ray generator, a nine-inch X-ray image intensifier, a 35 mm motion picture camera, a catherization table, and film processing and projection units.

Special Spanish Course Offered Convair-Astro

A special course in Spanish, slanted specifically for travelers, will start June 5 under CRA-ARA sponsorship.

Jim Hardison, instructor, said that the nine-week course is open to GD/Convair, GD/Electronics, and GD/Astro people free of charge, with no textbooks required.

Classes will be held once a week on Tuesdays, 7-9:15 p.m., in Room 11, Conference Bldg., Balboa Park. Registration will be taken at the June 5 class meeting.

The simplified language course will deal only with fundamental words and phrases a tourist needs in traveling through Mexico. A complete trip will be simulated with students learning enough Spanish to make transportation arrangements, obtain visas, exchange money, ask directions, order food and lodging.

Slides and maps of Mexico City, Cuernavaca, Taxco, Acapulco, Guadalajara will be studied so that beginners may learn the areas and how to pronounce place names correctly.

A motion picture of an Aeronaves flight tour from Tijuana to Mexico City with stops at Guadalajara and Acapulco probably will highlight one of the June meetings, Hardison said.

And, if enough are interested, students may make good use of their knowledge in an actual trip over the same route the latter part of August.

For further details Hardison may be contacted after 7 p.m. at his home phone, BR-6-5805.

Support Documentation Sweeps Field in First Volleyball Round

Support Documentation swept the field to win first round in the Wednesday League of the current IRC volleyball tourney and went on to take first match in the second half.

The Astro team downed Hounds, 15-12 and 15-9, May 9 in its first match of the number two section of league play. In other Wednesday League matches the same night, Convair Engineers defeated Astronets, 15-6, 15-6, and City Engineers downed NEL by 15-2, 15-10. The NEL team replaces Reliables in league play.

Leading the Friday League is the Convair team, Spacemen. They won from Project Support, 15-9, 15-6, May 4 and beat Park and Recreation by 15-9 and 16-14 the following week.

Park and Recreation defeated Astro Dept. 101 in their May 4 match, with Project Support repeating the same feat the next Friday.

The tournament will wind up the first week in June with final matches for the Friday League set for June 1 and Wednesday League last matches on June 6.

All games are played on Muni Gym courts, Balboa Park, with spectators welcome.

Accountants Elect Three GD/Astro Men

Three General Dynamics/Astronautics men will have active roles in direction of the San Diego Chapter, National Association of Accountants, during the coming year.

J. Ray Tucker heads the group as president following election of officers last week. Erle G. Hill Jr., and Phillip C. MacIntosh were named directors.

Tucker is manager of industrial accounting at GD/Astro. Hill holds the post of controller and MacIntosh is a cost analyst.

GD/Astro, GD/Convair Set Sale Schedule

Salvage yards at GD/Astro and GD/Convair main plants will be open to employee sales on the following alternating Saturday morning schedule:

GD/Convair—May 26, June 9.
GD/Astro—June 2, 16.

Ski Clubbers Win Title in Giant Slalom

GD/Convair Ski Club came back from the annual Giant Slalom Races May 4-5 at Mammoth Mountain with the club championship title.

Six skiing groups took part in events on "race day" Sunday. Competitors represented GD/Convair, GD/Astro, Don Diego, Solar, San Diego, Torrey Pines groups.

Winners of the men's open race were Asbjorn Linge, first; John Fatio, second. They are both members of the CRA group.

Jeanne Greenbaum of Convair club took third place in women's competition. Two San Diego Ski Club women, Gloria Kelly and Jewel Milke, placed first and second.

In the Convair Ski Club race, for members only, Linge took another first, with Fatio repeating a second. Joe Harris, CRA commissioner, was third. Jeanne Greenbaum this time garnered the women's top spot.

Two busloads of GD/Convair and GD/Astro skiers and their friends made the weekend trip. Saturday was spent on the ski slopes and at Hot Creek swimming.

CRA-ARA Ski Clubs will join in their annual dinner-dance at Fisherman's Wharf Cafe Saturday (June 2), when trophies will be handed out.

Social hour will be from 6:30 to 7:30 p.m. with dinner following. Movies of the Mammoth Mountain races will precede dinner and dancing will follow. All ski clubs in the San Diego area are invited, said Harris, who will take reservations at AT-4-0278. Gene Rockafeller of Astro may be contacted for reservations through ext. 2868, Astro main plant.

Gun Club Plans Two-Day Shoot

Marksmen will be drawing beads on turkeys, chickens, hams, even bacon, at a two-day special shoot this weekend (May 26-27).

The CRA Gun Club is planning a real whirlwind affair with "lots of prizes and fun for everyone," said Jack Swank, CRA commissioner.

The skeet, trap, rifle events, open to all shooters, will start at 1 p.m. on Saturday (May 26) and at 9 a.m. Sunday at Gillespie Field Range.

There will be ten target events, spinning wheel events, with a winner in each. After the second win, contestants will be handicapped two added yards.

"Bring your friends, make up your own squad," urged Swank. "There will be no delay in squadding."

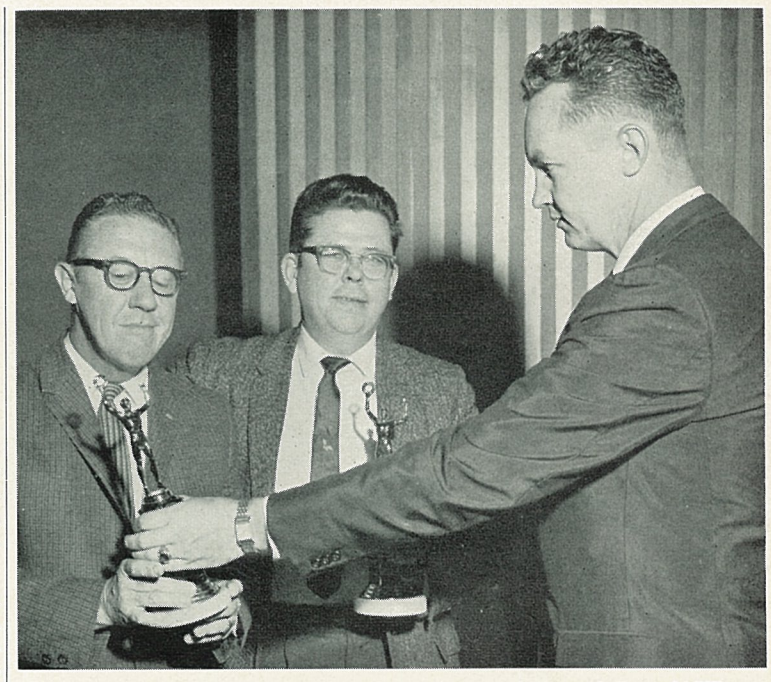
Entrance fees are $1, $1.25, and $1.50. Fifty cents will put entrants' names on a luck target with a wide choice of prizes. Everyone will have a chance to take home a prize, Swank emphasized.

Friday Is Last Day To Enter NMA Golf

This Friday (May 25) is last day for entering the annual NMA Southern California Area golf tourney, set for June 2 and 3 at Torrey Pines.

Gerry Cox, tournament chairman, is taking entries from GD/Convair Management Club members at ext. 1650, Plant 1. Forms can be mailed to him at mail zone 102-0.

GD/Astro club golfers are asked to contact Art King, ext. 3554, Astro main plant.



MACSAVE-ITS—William Strasburg (Dept. 16) and Ross Williams (Dept. 6) receive April MacSave-It awards from W. E. Wise (right), manager of resources engineering, at GD/Convair Management Club meet. Their joint CIP will save nearly $4,000 a year and 1,655 manhours.

Care in Keeping Cool Urged To Help Cut Electrical Cost

As summer breaks over General Dynamics/Convair, all offices equipped with air conditioning units are urged to be careful with their use to help keep electric bills down and "keep cool economically."

R. D. Marks, chief of methods, said, "Good judgment in the use of the division's air conditioning can reduce costs as much as $900 a month."

If basic rules for using the equipment are followed, same degree of comfort will be provided at a lower cost. In addition, less maintenance will be necessary.

Following are six suggestions which will save on costs if applied wherever air conditioning is used, either at home or work:

Use air conditioners only when required, usually when outside temperature is over 70 degrees.

Flow of air through the unit should be unobstructed. Paper, clothing, curtains, or similar obstructions reduce efficiency as much at 40 per cent.

Heat thermostats should be turned down when air conditioning is operating to be sure the two do not operate simultaneously.

Doors, windows, air ducts, and exhaust ports should be closed to prevent loss of cooled air.

Minimize use of lights, motors, or other similar heat-producing facilities to reduce the load on the air conditioning unit.

Turn the air conditioner off at least half an hour before leaving for the evening, weekend, or at end of shifts.

Lawson Presides At Ryan Club Rite

L. G. Lawson of GD/Convair presided at installation of new officers of the Ryan Electronics Management Club last week.

Ceremonies were held May 17 at Catamaran Hotel on Mission Bay.

Lawson, past president of the GD/Convair Management Club, now is vice president of San Diego Area Council NMA Clubs.

Former Apprentices Will Picnic June 3

A picnic for all GD/Astronautics and GD/Convair graduate apprentices will be held at the main picnic shelter, ARA recreation area, from 10 a.m. to 4 p.m. June 3 at San Diego.

Additional information is available from John Sewell, San Diego Plant 2, ext. 397 or Fred Shepard, Plant 1, ext. 2912.

Skin Diving Group Plans Holiday Event

Delta Divers will kick off the summer skin diving season with a "scavenger" event on Memorial Day.

CRA club members, families, guests will gather at Casa Cove in La Jolla at 10 a.m. next Wednesday (May 30). Harry Ruscigno, CRA commissioner, said that all newcomers are welcome to join in the day of diving.

ROCKHOUNDS CLOSE SHANTY UNTIL FALL

Rockhound Shanty on Pacific Hwy. will close June 13 for the usual summer vacation period, said Dan Whorton, CRA commissioner. It will reopen on its usual schedule Sept. 11.

Save Material—Don't Throw Your Job Away!

DAUGHTERS ARRIVE IN TWIN PACKAGES

Population is exploding at General Dynamics/Electronics mechanical design section at San Diego Plant 1.

Odds were running about even on the stork race which resulted in two sets of twin daughters within a few days of each other.

Tom Balestrieri got a chance to do his bragging first as he passed out cigars May 4 after arrival of Monica Anne, 6 lbs., 6½ oz., and Bernadette Marie, 6 lbs., 10½ oz.

Jon Bersagel was a close second with Pamela, 6 lbs., 1¼ oz., and Patricia, 5 lbs., 1¾ oz., making their appearance early the morning of May 8.

Baseball Varsity Wins First Games

ARA's Varsity Baseball team continues unbeaten, recently downing a Ryan team 7 to 3 in their second pre-season game. Previous victory was 13-0 over San Diego Police Department.

Pitcher in the Ryan contest was Hilbert Murillo, while leading batter was Marty Martinez who hit four for four and boosted his average to .888.

Box score for the Astro team showed 12 hits, seven runs and no errors.

Management Club Families to Picnic

A full day of fun and entertainment is on hand for GD/Convair Management Club families at the annual summer picnic Saturday (June 9) at Pecan Park.

Tickets at $1 per family will be on sale by the first of the week at regular ticket outlets, said B. T. McMicken, general chairman.

Factory departments, sponsoring the get-together, are planning games, prizes, raffle, professional entertainment, complete with clown and ventriloquist.

Each family is to bring its own picnic lunch. Pop, coffee, beer, ice cream will be free.



SEASON'S START—Fishermen of all ages hooked fish of all sizes on first GD/Astro chartered trip of season to La Jolla kelp beds. Jack Wilson Jr. (Dept. 967-6) snapped highlights, from left, Jeff Vincelett, 11, patiently waiting for bite; Jerry Huston with 26½-lb. yellowtail, top catch of day; Phil Vincelett Sr., happy to reel in even a small one; stop at bait tanks before heading for open waters. Eighteen anglers made trip, many fathers taking along their young sons.

Family Swim Night June 2 at Plunge

Next family swim night for GD/Convair and GD/Electronics people will be June 2.

Free tickets to the monthly swim, arranged by CRA, will be on hand at employee services, Bldg. 32, Plant 1. Open hours are 7-9 p.m., first Saturday of each month, at Mission Beach Plunge.

Model Railroaders Travel to Phoenix For Regional Meet

Three CRA model railroaders, prominent in local, state, and national activities, traveled to Phoenix, Ariz., early this month as delegates to the annual Pacific Coast Region NMRA convention and executive committee meeting.

They were Karl Busch of GD/Convair, editor of the national NMRA Bulletin and president of the San Diego Model Railroad Club, with which the CRA group is affiliated; Dave Kahler, also GD/Convair, Pacific Coast Region membership chairman; and Bob Durnell of GD/Electronics, secretary of the San Diego group.

Busch took a second in structures category in the model contest, while Kahler placed third with his locomotive entry.

Over 200 modelers from California, Nevada, Arizona attended the three-day convention, May 4-6, with 80 models entered in nine categories in the model contest.

Sports & Recreation

Color Guard to Parade At Annual Festival

CRA Riding Club members are urged to turn out en masse to applaud the group's popular mounted Color Guard in its next appearance this coming Sunday.

The well-drilled Color Guard, in much demand at community affairs throughout the Southwest, will be seen in the annual parade at Pacific Beach May 27.

Color movies of some of the parades in which the mounted group has participated, including the Yuma, Ariz., Rodeo, and recent parade at San Juan Capistrano, were shown May 12 at Gillespie Field Clubhouse.

Special guests were members no longer with the company and those now at GD/Astro. Dancing to music of the Color Guard Combo enlivened the evening. Hap Manion presided at the drums, Roy Wilson played the sax, Turner Albright, the piano. Special guest performer was Merle Cunningham, saxophonist, who has performed with some of the top bands in the area.

The Color Guard was a highlight of the Annual Horse Show sponsored May 6 by the GD/Astro Riding Club. Members of the CRA group attending, at invitation of Les Allen, Astro club president, included Luke Barbour, Manion, Jim Hill, Don Wescott, Roy Sims, V. V. Thomason, Willie Mansir, George Graham, Ray Dodge, Jack Ethridge, Earl Carlton, Vern Holm, and Albright.

Thomason won a first-place trophy in Western competition, one of the most colorful events of the day.

WATER SKIERS PLAN MEETING AT 7 A.M.

Water skiers from GD/Convair and GD/Electronics will open the season with a holiday event on Memorial Day.

An early morning ski session on Mission Bay waters has been scheduled for next Wednesday, said CRA Commissioner Gene Sevigny.

Skiers will meet at Santa Clara Point at 7 a.m. with skiing continuing until 11 a.m. There will be no charge for club members, said Sevigny.

Saturday skiing still is arranged on a phone-call basis. All wishing to take part are asked to contact Sevigny at ext. 2779, Plant 1.

Discount Offered On Fishing Trips

Anglers at GD/Convair and GD/Electronics may get a $1 reduction on half-day fishing trips from Seaforth Landing with exchange tickets available at employee services.

The regular $5.50 sportfishing trips are $4.50 with the IRC tickets when presented at Seaforth Landing, 1641 Quivira Rd., Mission Bay. Reservations are required.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. until noon, Clairemont Mesa Flying Site.

BOWLING—Spots still available on summer leagues. Call CRA office, ext. 1245; Jim Hayman, ext. 2225; Frank Colianna, ext. 2424, all Plant 1.

BRIDGE CLUB — Weekly sessions every Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Meeting May 28, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play every Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

DELTA DIVERS — Scavenger dive Memorial Day (May 30), 10 a.m., Casa Cove, La Jolla.

GUN CLUB—Open merchandise shoots, May 26, 1 p.m.; May 27, 9 a.m.; Gillespie Field Gun Range.

ICE SKATING — Skate nights Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30 to 8 p.m.

JUDO — Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m., open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20¢.

PISTOL CLUB — Next shoot May 27, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—Meeting tomorrow (May 24), 8 p.m., Harbor Drive headquarters.

RIDING CLUB—Color Guard appears in Pacific Beach parade, Sunday (May 27). Next meeting June 7, 7:30 p.m., Gillespie Field Clubhouse.

ROCKHOUNDS — Rockhound Shack, Pacific Hwy., closes after June 13 for summer months.

SNOW SKI CLUB—CRA-ARA joint dinner-dance June 2, Fisherman's Wharf. Social hour starts at 6:30 p.m., dinner at 7:30 p.m.

SOFTBALL — "Slow pitch" managers meeting this Friday (May 25), 5 p.m., CRA Clubhouse, Pacific Hwy.

SPANISH COURSE — Registration at first class June 5, Room 11, Conference Bldg., Balboa Park, 7-9:15 p.m.

SQUARE DANCING — Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave. Party night, fourth Saturday (May 26), 8 p.m.

SWIM NIGHT—Family swim night June 2, 7-9 p.m., Mission Beach Plunge. Free tickets at employee services, Bldg. 32, Plant 1.

WATER SKI CLUB — Memorial Day ski session, 7-11 a.m., Santa Clara Point, Mission Bay.

Mavericks, King Pins, Strikers Collect Team Bowling Honors

Top keglers in the 21st annual GD/Convair championship bowling tournament gathered their trophies at an award presentation last Friday night (May 18) at Pacific Recreation.

Jim Hayman, CRA bowling commissioner, said that participation exceeded all expectations with over 400 bowlers entered in competition during tourney weekends, April 21-22, 28-29.

Fifty-three teams competed in the mixed and men's team events; 200 entries vied in doubles and singles play; and 149 were listed for all events.

Top teams were Mavericks (scratch), 2,747; King Pins (handicap), 3,103; Strikers (mixed), 2,981.

Team members of Mavericks were Newman Bergen, Donald Smith, Robert Harbinson, John Sawicki, William Smith.

King Pins were William Neal, Ray Gibbons, Richard Rickman, Maxwell Riedinger, Anthony Menniti.

On the Strikers were Jean and Bob Saunders, Irene and Walt Duzyk, and Jay Millhone.

Winners of men's doubles were Neal and Rickman (handicap), 1,267; J. Meller and E. Aus (scratch), 1,153; mixed doubles, Clarice Aus and Omer Engels (handicap), 1,224; Cathy and Jim Hayman (scratch), 1,051.

Men's singles, Lynn Fackler (handicap), 676; Archie Bridger (scratch), 638. Women's singles, Judy Raffelson (handicap), 645; Marty Munny (scratch), 586.

Men's all events was won by Rickman (handicap) with 1,883. Hayman was scratch winner with 1,778.

Clarice Aus topped women's all events with high handicap and scratch scores, 1,849 and 1,537. Judy Raffelson won the handicap trophy with her second-place spot, 1,804.

Big Sea Bass Wins Button For April

A 48-lb. white sea bass collected the only button award given in March for C. L. Moore (Dept. 21) and has a good chance of taking a trophy as fish of the year, said Bob Menzie, CRA Fishing Club commissioner.

Three cash prizes went to top fishermen in April with opening of the CRA summer fishing contest.

R. F. Frier (Dept. 140) won first prize of $15 for his 18½-in. trout hooked at Lake Murray. A. E. Clauss, retired from Dept. 31, was second with a 10-lb., 13-oz., corvina caught in Salton Sea. His prize was $10.

Ruth Menzie, wife of Commissioner Menzie, won $5 for her 10-lb., 4-oz., corvina, also hooked at Salton Sea.

Keg Openings Remain In Summer Leagues

Bowlers may still sign for summer league spots, said Jim Hayman, CRA bowling commissioner.

Although leagues are virtually complete, extra bowlers are always needed to fill in during vacations and other absences, he explained.

A Mixed Trio league bowls Wednesdays at Pacific Recreation; Mixed Fivesome, Thursdays, Frontier Lanes; Mixed Foursome, Thursdays at Victory Lanes.

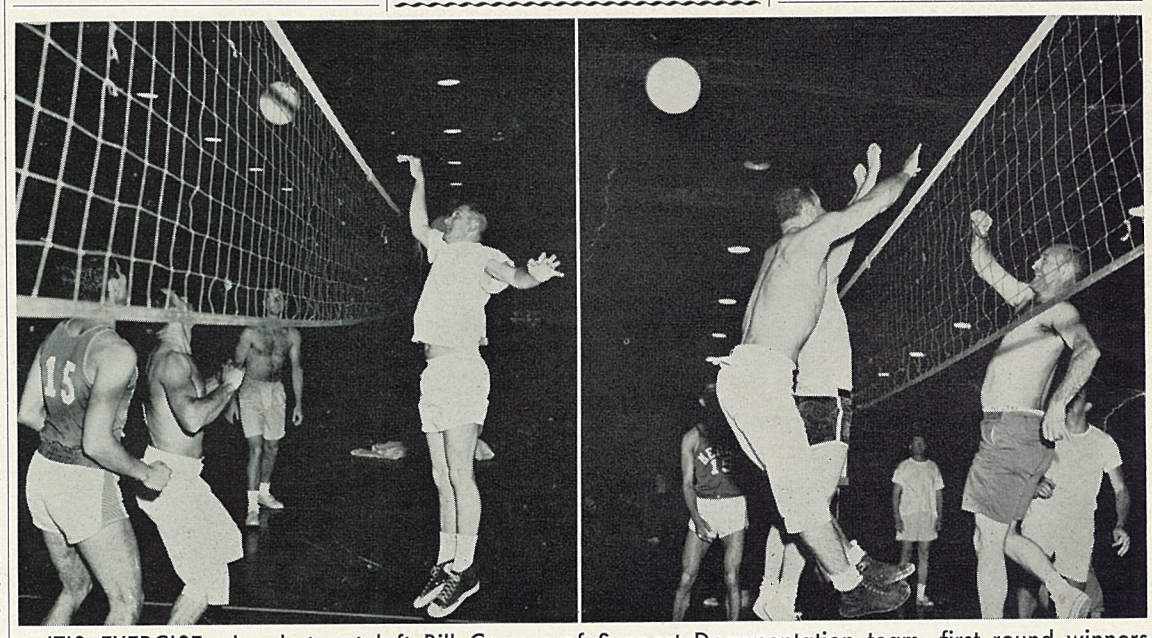
Any kegler at GD/Convair or GD/Electronics interested is urged to call CRA headquarters, ext. 1245; Hayman, ext. 2225; or Frank Colianna, ext. 2424, all at Plant 1.

'Slow Pitch' Meeting Scheduled Friday

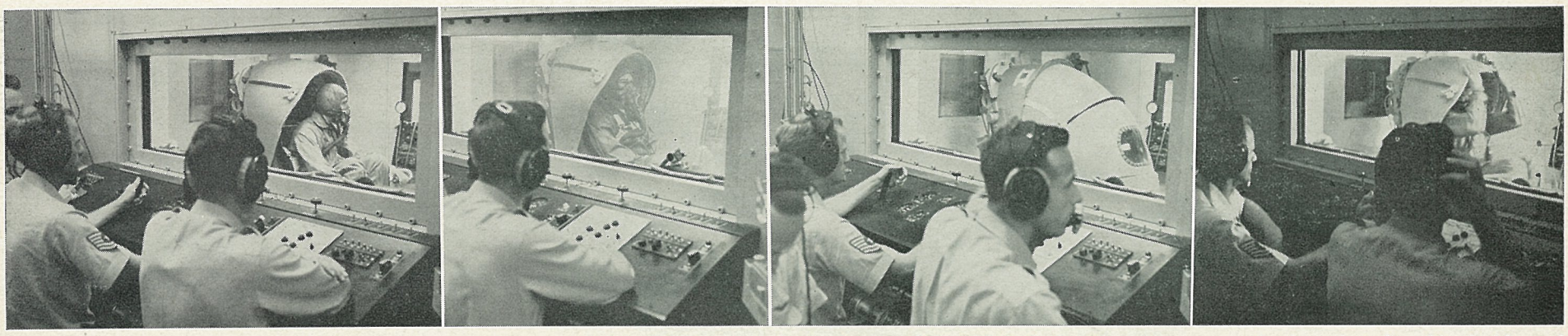
A managers' meeting for the upcoming "slow pitch" softball league is set for this Friday (May 25) at 5 p.m. in CRA Clubhouse, Pacific Hwy.

Pete Beyrer, CRA commissioner, urges all team managers to be present to set up a schedule of league play and establish rules of play. They may pick up equipment at the same time.

Beyrer expects six teams to take part in the plant league with play to begin June 6.



IT'S EXERCISE—In photo at left Bill Cramer of Support Documentation team, first round winners in Wednesday League volleyball play, returns ball during game with Hounds team. In photo at right Reno Bernadini delivers hefty belt.



PRACTICING—In this series of photos volunteer airman seated in B-58 escape capsule inside pressure chamber undergoes simulated conditions of sudden depressurization at high altitude. "Fog" fills chamber during few seconds of actual simulation of 50,000 ft. before he triggers capsule door that shuts him inside and starts own pressure system. B-58 is first plane in which pilot can fly at high altitudes without pressure suit because of self-sustaining capsule.

Volunteers 'Practicing' Survival at 50,000 ft. In B-58 Escape Capsule

High-altitude decompression tests at Carswell AFB are helping usher in an era of "shirt-sleeve flying."

Well-drilled Air Force volunteers are confirming man's ability to operate a B-58 escape capsule if, in an emergency, suddenly subjected to rarified atmosphere of 50,000 to 60,000 feet.

"The B-58 is the first plane in which an airman can fly at these great heights without wearing a pressure suit," said Dr. J. L. Judson, GD/Fort Worth aerospace medical specialist, who is running the program along with Dr. G. E. Holladay, Air Force flight surgeon.

"This is possible because the B-58 capsule has its own pressurization system, which comes on automatically when its telescoping doors are closed.

"Thus the B-58, with its self-sustained capsule, is reversing the trend of heaping on added flight paraphernalia needed to protect the airman in case of emergency at high altitude, where temperatures are sub-zero and there is little oxygen."

In effect, tests simulate sudden loss of pressurization at high altitudes and aim at showing airmen can survive these conditions long enough to activate the escape capsule.

(Incidentally, activating the capsule does not commit the crewman to bailing out, because the aircraft can be flown from within the capsule.)

Phase I testing, conducted from May 1 through May 9, subjected airmen to decompression up to 50,000 feet. Second phase goes up to 60,000 feet.

Airmen were slated to wear regular summer flight uniforms up through 55,000 feet. Between 55,000 and 60,000 feet, they will wear de-activated pressure suits as a safety precaution.

Each "flight" takes about 30 minutes.

After a period of conditioning within the chamber, the volunteer hears the monitoring physician outside start a countdown of "3-2-1-Zero" after which he initiates decompression. The physician's voice continues with "1-2-3-Fire," during which period the volunteer is subjected to rapid depressurization to 50,000 ft. conditions. At any point after "Fire" the volunteer squeezes the capsule handles which trigger the door, encapsulating him and giving him automatic pressurization.

"He is actually exposed to the simulated high altitude conditions following the countdown," Dr. Judson pointed out.

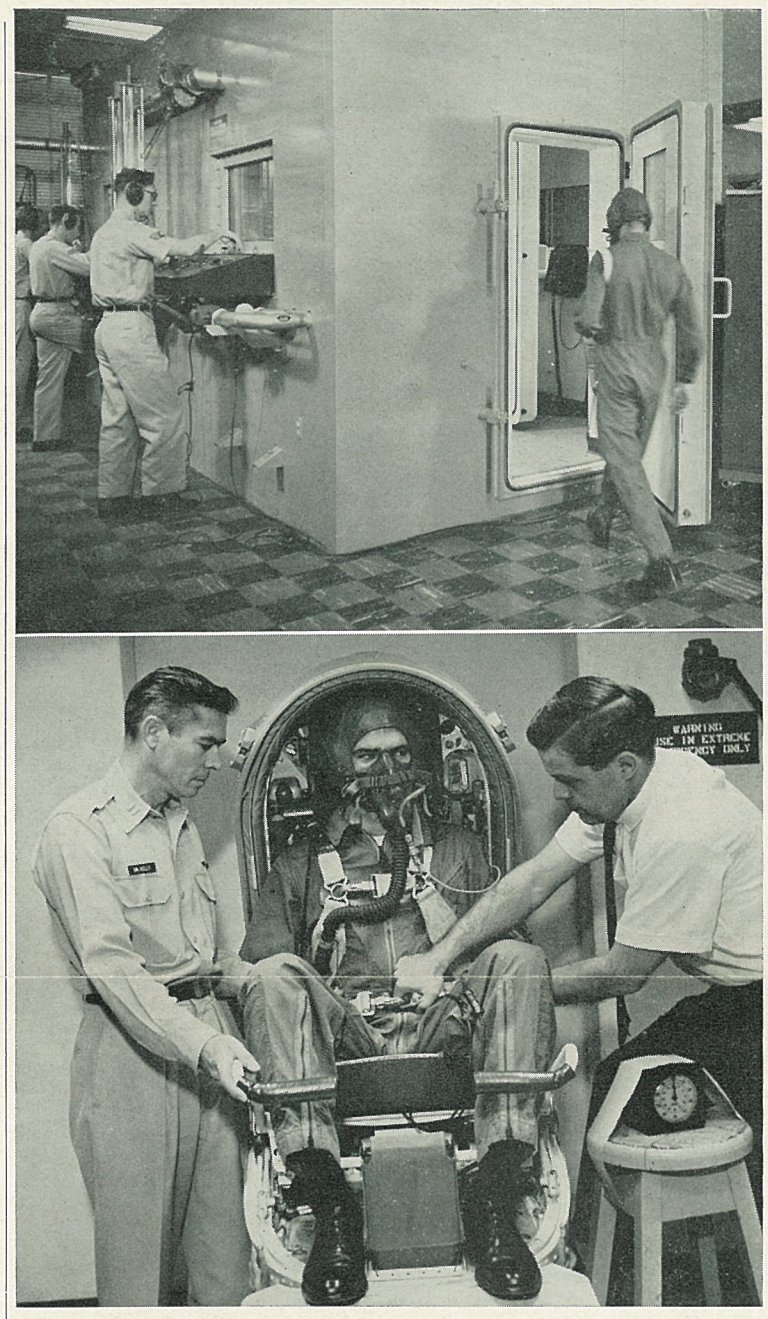
"So far, our tests have indicated that an airman is capable of operating the capsule controls within this critical time period."

Intensive physical checkups are given volunteers immediately after the tests, and at intervals later. This is followed by one-week and one-month follow-ups.

A minimum of 12 volunteers, all of whom have passed rigid physical and psychological screening, are slated to be used.

C. E. Bledsoe, senior design engineer personal equipment, is assisting in the tests at the Carswell AFB Physiological Training Center.

"In addition to determining the airman's ability to react at high altitude," Dr. Judson pointed out, "we're proving compatability of the oxygen and pressurization systems with the human subject — and establishing a confidence level in usage of the capsule at high altitude."



BEFORE AND AFTER—In top photo, volunteer enters chamber for "flight" while below, test over, Dr. R. J. Kelly, Air Force flight surgeon, and Dr. J. L. Judson, GD/Fort Worth aerospace medical specialist, begin extensive physical checkup.

Instrument Society Installs Officers

C. A. Paul, GD/Astro electronic development general foreman, has been installed as president of the San Diego Section, Instrument Society of America.

Other officers include Bill Holmes of GD/Convair, vice president, and Bob Kelley of GD/Astro, treasurer. Jim Ingrahm is a new member-at-large.

Installation came at a May 10 affair at the Convair executive dining room at which Allan Lee, manager of the Stanford Research Institute, spoke.

June 8 will find the Section holding a dinner-dance at Kona Kai. General Dynamics employees interested in attending or taking part may contact Paul at ext. 3923, Astro.

Light Plane Flown Away Successfully From Narrow, Rock-Strewn River Bottom

Flying a light airplane out of a sandy, rock-strewn, tree-rimmed river bed, with less than 300 feet of straight away might seem impossible to most aviators, but veteran pilot Joseph Tarr (Dept. 51, General Dynamics/Pomona) did just that last month.

"We tied the tail of the plane to a tree," Tarr explained. "Then I used full flaps (30 degrees), placed the prop in low pitch, and revved up to full power—2,500 rpms and 27 inches of manifold pressure."

At a signal from Tarr, a helper cut the rope with an axe, and Tarr literally bounced the plane into the air.

Tarr was asked to fly the plane out after one of his flying students made a forced landing in the bed of the Santa Ana River near Riverside.

A pilot for the past 20 years, Tarr estimates that he now has approximately 7,900 hours in the air.

While serving in the Navy during World War II, Tarr became a naval aviation pilot (enlisted) and later qualified for a commercial and an instructors' license.

At present Tarr is teaching evening ground school classes at Kelly School in Rialto, Calif., and has 11 flight students.

MOLESKO LECTURES ON SPACE PLANNING

Norman M. Molesko of GD/Astronautics human reliability requirements group (Dept. 146-7) was guest lecturer on human factors application in planning, design and development of advanced man-in-space systems at the University of San Diego recently.

GRADUATE STUDY AWARDS GRANTED

Four $1,000 scholarships for graduate study during the coming year have been awarded by General Dynamics/Astronautics to outstanding candidates for advanced degrees in fields related to Dynamics programs.

Recipients of the annual awards were announced recently by J. A. Croft, chief of educational services.

Winner of his third consecutive grant is Gus P. Tricoles, 1963 candidate for a doctorate in physics at the local University of California campus. Prior to beginning advanced study, Tricoles was a GD/Convair research engineer.

David M. Bulman, formerly employed in GD/Astro digital computer laboratories, receives his second grant for doctoral study in applied mathematics at Johannes-Gutenberg University, Mainz, Germany.

Receiving awards for the first time are Thomas J. Sadowski, studying toward a master of business administration at Stanford University, and James G. Seebold, who will enter Stanford this fall as a doctoral candidate in mechanical engineering.

Sadowski is a former GD/Astro design engineer, while Seebold is presently a research engineer in advanced systems (Dept. 582-1).

Nine to Receive Their Masters

Over two dozen GD/Convair and GD/Astronautics men will receive degrees and certificates at the June commencement of California Western University.

All have been taking courses under the cooperative General Dynamics-Cal Western program.

Master's degrees in business administration will go to Edward Dangler and Norman Tipton of GD/Convair. E. W. Manning and Malcolm Boothby, both GD/Convair, will receive bachelor's degrees in business administration.

GD/Astro men achieving master's in BA are Bert W. Kuty, James D. Mason, Robert P. Parmett, Louis Sahfran, Joseph Timlin, Richard B. Wilson, Eugene Zevin. Bachelor's degrees go to Roy T. Bailey, Michael Dascenzo, John Henry Edwards, Alan Darrock, Dewey Maltese.

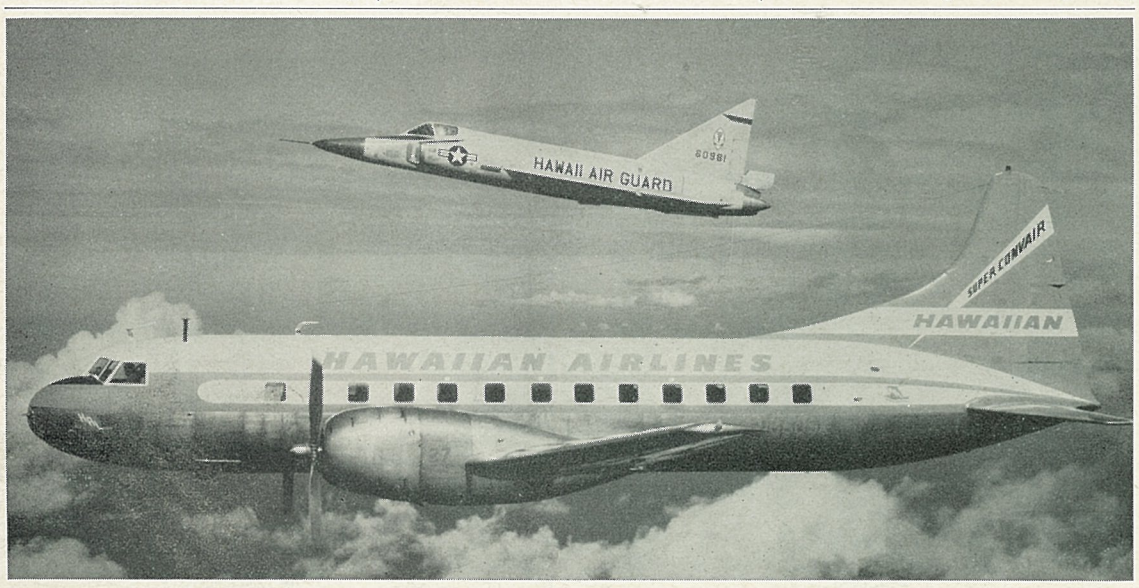
Two-year certificates from the School of Business will be awarded Frank Biscak, John Cicalo, Wendell Durflinger, Bernard L. Gammon of GD/Convair; Robert Ames, John F. Baebler, William Cockerell, Joseph Comber, LeMoin Cox, Leonard Mays, all of GD/Astro.

'Dangers in EDP' Told In Harvard Article

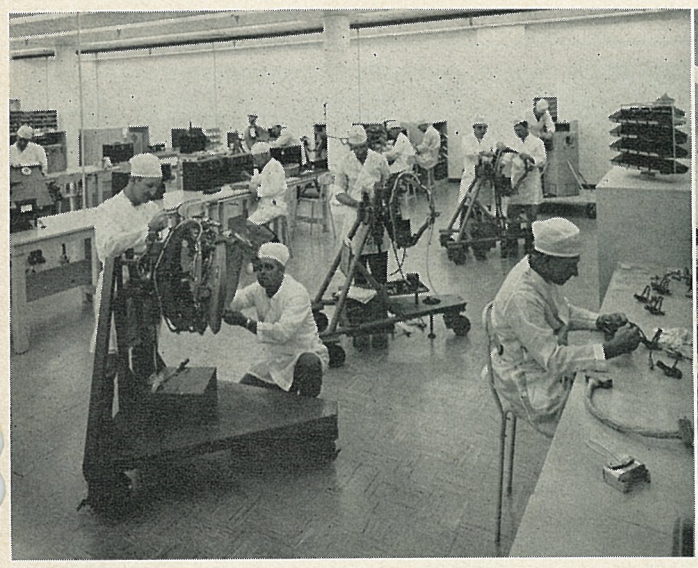
An article by L. R. Fiock Jr., supervisor of management analysis section, industrial engineering department at GD/Fort Worth, appears in the May-June issue of Harvard Business Review.

Entitled "Seven Deadly Dangers in EDP," the article deals in depth with the problems of operating electronic data processing programs.

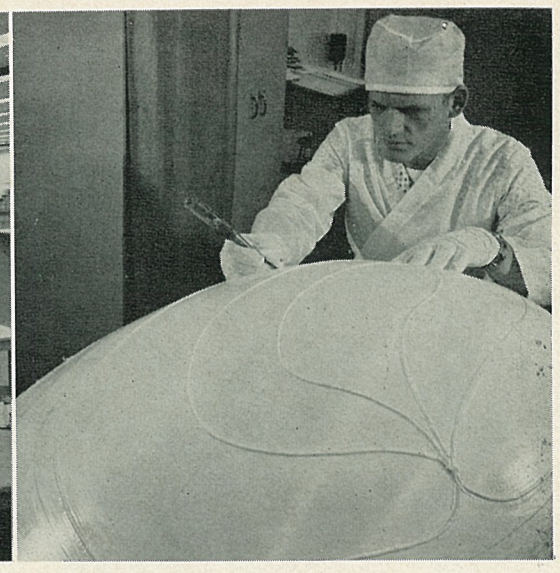
Fiock has been in production control, organization and systems aspects of manufacturing for 14 years.



CONVAIR SIBLINGS—Hawaiian Airlines Convair 340 and Hawaii Air National Guard F-102 pass in mid-air over Islands with Lt. Col. Robert B. Maguire, chief pilot for Hawaiian Airlines at 340 controls. Col. Maguire also is commanding officer of 154th Fighter-Interceptor Group, HANG, reports Matt Quilter, GD/Convair rep based with 199th FIS, Hawaii.







MODERN LAB—GD/Electronics' new electronic manufacturing laboratory, just completed at San Diego, was revealed to public for first time at open house last weekend. Modern facilities include, at left, ultra-clean antenna assembly area with workers in white nylon coats and caps; (center) well-lighted, bright electronic assembly area, G. G. Bair, assistant foreman, is at phone; (far right) Don Byrum works on mold for antenna reflector in plastic fabrication area.

GENERAL DYNAMICS

NEWS

SAN DIEGO EDITION

Vol. 15, No. 12 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, June 6, 1962

Hundreds Visit GD/Electronics' New Lab Areas

Hundreds of General Dynamics/Electronics people and their families in the San Diego area filed through the division's new electronic manufacturing laboratory last Saturday at the official open house.

Preview of the new ultra-clean area on the lower floor of Bldg. 51 at Plant 1 was held the evening before for several hundred civic and aerospace industry leaders and members of the press.

On display were examples of the division's complete line of electronic products. GD/Electronics facilities at San Diego produce airborne and surface radar systems, cathode-ray tubes, and some of the most advanced computer output equipment available today. The occasion marked the first time the division has ever displayed its entire product line at one event.

Including the new laboratory, GD/Electronics now has more than 200,000 sq. ft. of facilities in San Diego.

The new 34,000-sq. ft. laboratory is designed to create cleanliness conditions equal to hospital standards, required for precision fabrication of electronic and electro-mechanical instruments.

The facility will be used for manufacture of radar equipment.

In addition to the new laboratory area, in the east half of Bldg. 51, GD/Electronics personnel occupy the second floor of the building. GD/E has an antenna range and checkout facility on the roof of Bldg. 51 and heavy machinery operations in the south end of Bldg. 4. At its plant at 1895 Hancock St., GD/E manufactures CHARACTRON Shaped Beam Tubes and electronic data processing equipment.

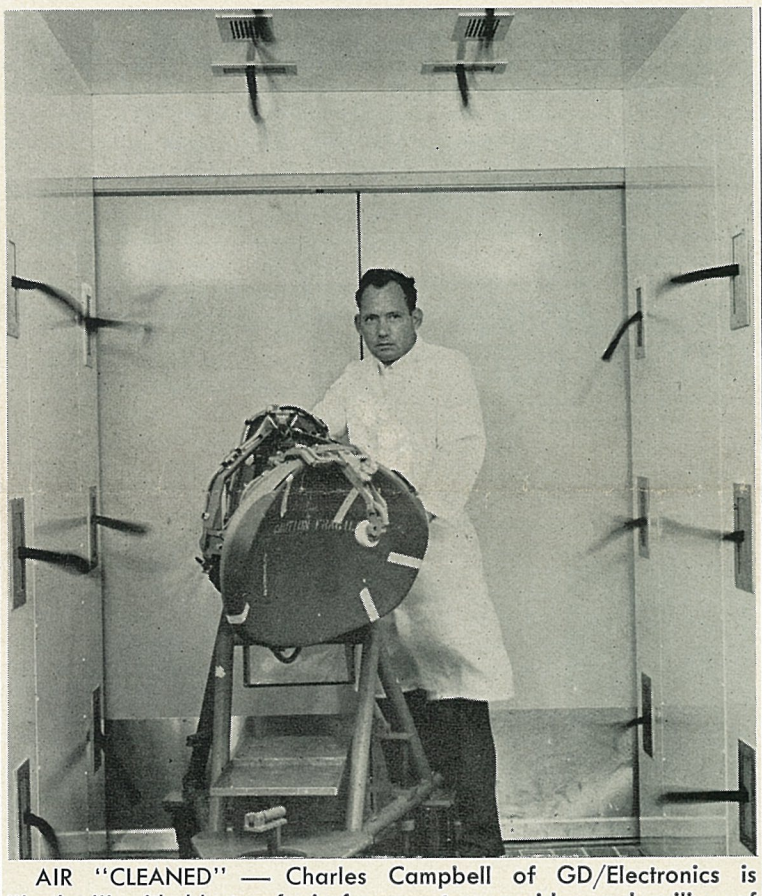
According to William Lawrence, general manager of General Dynamics/Electronics at San Diego, the new laboratory facilities are on a par with any ultra-

(Continued on Page 2)

Electronics Assoc. Elects C. F. Horne

Charles F. Horne, president of General Dynamics/Pomona and General Dynamics/Electronics, last month was elected president of the Electronics Industries Association.

His election came at the quarterly EIA directors' meeting in Chicago. He succeeds L. Berkley Davis, vice president and general manager, Electronics Components division, General Electric Co., Owensboro, Ky.



AIR "CLEANED" — Charles Campbell of GD/Electronics is "bathed" with blasts of air from grates on sides and ceiling of air locks at entrance to ultra-clean area.

Drive to Encourage U.S. Bond Buying as Safest Way to Save

A drive will be launched next week to encourage all General Dynamics/Convair and General Dynamics/Electronics people to purchase U. S. Savings Bonds by payroll deduction.

Monday (June 11) will start the week's campaign to give all non-buyers a chance to participate.

Tab cards for everyone not now buying bonds will be distributed in all departments by supervision By signing the cards and filling in an amount, present non-buyers may authorize weekly or bi-monthly deductions. Those currently participating may increase their regular deductions, if they wish.

Amounts may be as small as $1.25 a week or as large as the employee desires.

Once a person authorizes a deduction and signs a tab card no further action is required. When enough money accumulates to buy a bond of the denomination specified, the bond is delivered by mail to the home.

At present, more than half of the population at GD/Convair is already building up savings in government bonds through payroll deduction. Percentage of buyers stands at 59, with the average deduction $7.50 per week.

GD/Electronics participation is 33 per cent of San Diego population. Average deduction is $8.39 each week.

Coordinating the 1962 drive is GD/Convair employee services.

College, High School Courses Offered

Brochures and information on programs offered at colleges and adult high schools in the San Diego area during the coming summer session may be obtained at GD/Convair educational services offices, Bldg. 15, Plant 1.

Classes at Hoover Adult High School, Midway Adult High School, San Diego Evening High School start June 18.

Registration at San Diego City College will be during the week of June 25. San Diego State College will have two summer sessions, June 25-Aug. 3; Aug. 6-24. Summer session of University of California Extension program starts the week of June 25.

Studies Directed At Requirements Of Limited War

In response to increasing emphasis placed on limited warfare requirements by the federal government, General Dynamics/Convair in future will concentrate on programs having direct applications in this area, J. H. Famme, GD/Convair president, announced this week.

Efforts in this direction will supplement the division's major subsystem and subcontract work.

Famme said the division, with Corporate approval, will orient its product lines toward the tactical requirements of all three armed services.

"The SATS (Small Airfield for Tactical Support) Landing Matting program is already in-house and funded. It was bought by the Naval Air Material Center with Marine Corps funds," Famme pointed out. "This is a start. There are many more projects and studies we can obtain."

As examples of the programs the division is studying Famme listed: a close-support fighter that could use the 2,000-ft. SATS landing field without catapult help; a tri-service logistics amphibian that could airlift supplies and troops to the edge of a battlefield; amphibious ground vehicles; aerial gun platforms employing the ground effect principle for takeoff and landing; undersea

(Continued on Page 2)

C-141 Engineers Try Out Tail Mockup For Clear Passage to Control System

Engineers on the C-141 project at General Dynamics/Convair are crawling in and out of a wooden skeleton to prove that men can climb through the inside of the vertical tail when necessary.

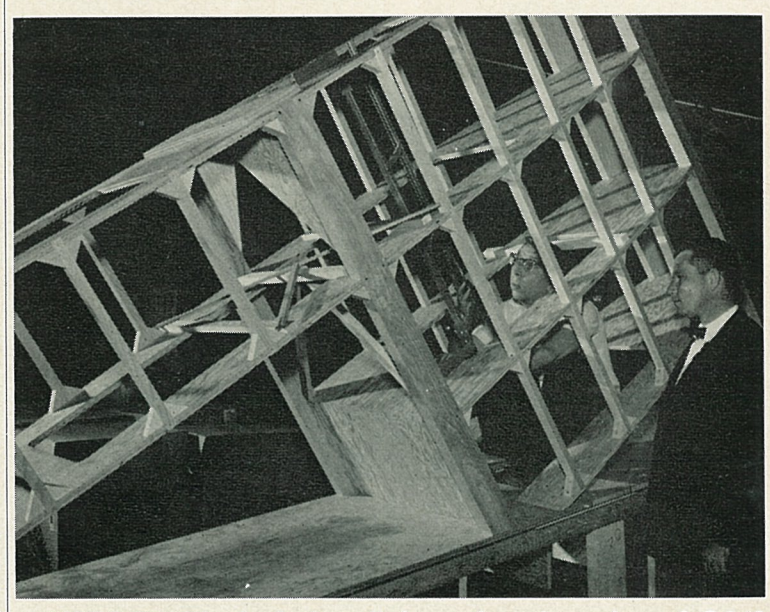
First full-size mockup of a C-141 tail section is set up in Bldg. 5 experimental area in Plant 1 to prove out engineering design. GD/Convair is building the C-141 empennage for the Air Force cargo jet transport under a subcontract from Lockheed-Georgia Co.

Clearance must be allowed within the empennage for maintenance work, explained R. J. Schulte, structural design group engineer on the C-141 project.

Mechanics will need an inside path to the elevator control system. They then will be able to walk out on the horizontal surface for maintenance of the elevator system, including lubrication and standard inspection procedures.

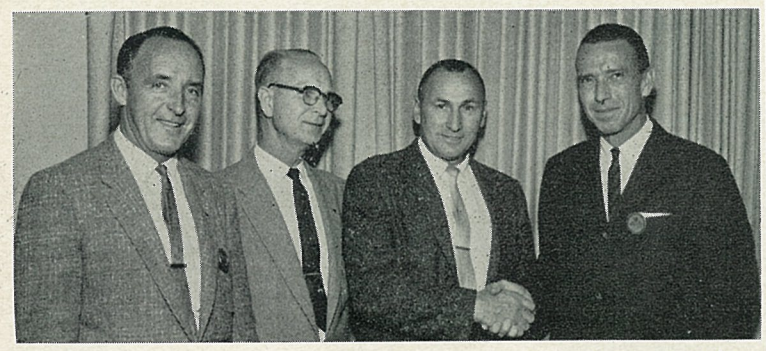
Design provides access from the fuselage into the tail. Passage is allowed from bottom to top of both forward and aft sections. The two sections are con-

(Continued on Page 2)

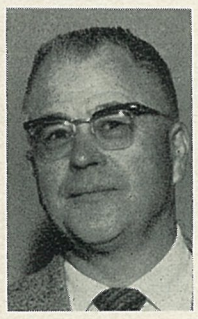


INSIDE TRACK—Beginning climb up through mockup of C-141 vertical tail section is Frank Bergen, GD/Convair engineer, checking clearance for future interior maintenance. Looking on, at right, is R. J. Schulte, C-141 structural design group engineer.

Log Book Entries



Receiving 25-year congratulations from W. J. Martin, right, director of GD/Convair quality control and production flight, are: W. K. Baker, G. E. Forbes, B. C. Piland, all Dept. 48.



Supt. Paul Pearson recently received his 25-year emblem at GD/Convair.

Service Emblems

CONVAIR

Service emblems due during the period June 1 through June 15.

Twenty-five-year: Dept. 31, Steve Kecskes Jr., W. M. Woolford; Dept. 171, F. J. Johnson; Dept. 223, Carlo Costantino.

Twenty-year: Dept. 3-1, E. W. Olson; Dept. 6-900, R. E. Strayer; Dept. 31, J. J. Carkoski, Willard Martin, F. G. Taylor; Dept. 140, F. J. Longworth; Dept. 171, G. A. Chambers; Dept. 201, D. R. Winkler.

Fifteen-year: Dept. 6-800, David Weitzman; Dept. 25-5, J. S. Dillow, S. J. Fortunato; Dept. 101, A. L. Davis; Dept. 102, Cleo A. Nelson; Dept. 115, G. J. Ellis, G. F. Thompson; Dept. 133, Carlos Esquivel; Dept. 140, S. B. Greco Sr.; Dept. 160, Z. T. Bolin, Ramon Gamboa, Russell Gann; Dept. 204, C. M. Lomeli; Dept. 216, Alice T. Mills.

Ten-year: Dept. 3-1, A. T. Pickett; Dept. 6, Verna B. Jenkins, E. J. Steeger; Dept. 14-4, R. J. Nickerson; Dept. 16-7, Margaret T. Cox; Dept. 21-2, R. H. Hern; Dept. 25, D. J. Bryant, R. L. Noble, V. H. Yearwood; Dept. 48, L. E. Reynolds, Vito Tilotta; Dept. 115, K. R. Thompson; Dept. 192-1, J. H. Hansen; Dept. 400-5, J. L. Harrison; Dept. 401-7, J. B. Bates, Jo Ann R. Williams.

GD/ELECTRONICS

Twenty-year: Dept. 8-5123, Albert Munn; Dept. 8-5102, Jacob Weber.

Ten-year: Dept. 2-5910, J. A. Gastler, Betty M. Leep; Dept. 7-5153, Flora G. Garff.

Retirements

CONVAIR

FRYE—Claude R., Dept. 223. Seniority date May 7, 1952, retirement effective May 22, 1962.

HAYES — Minnie B., Dept. 216. Seniority date April 5, 1951, retirement effective May 21, 1962.

MESSMER—Bruno, Dept. 31. Seniority date March 26, 1945, retirement effective May 22, 1962.

NIELSEN—Charles, Dept. 115. Seniority date June 12, 1951, retirement effective April 30, 1962.

SWEENEY—Dwight W., Dept. 48-43. Seniority date August 15, 1947, retirement effective May 23, 1962.

VINUTO—Anthony, Dept. 401. Seniority date April 23, 1952, retirement effective May 15, 1962.

WITHERS — Daniel A., Dept. 401. Seniority date Feb. 28, 1942, retirement effective May 25, 1962.

WOOD—Alex J., Dept. 48. Seniority date April 3, 1951, retirement effective May 21, 1962.

Personals

CONVAIR

I would like to express my deepest appreciation to all my friends in Depts. 216, 218, 292 for the thoughtful and heartwarming kindness they showed following the death of my husband, C. R. Byrd.

Mrs. Natalie Byrd,
Dept. 216, Plant 2

Deaths

CONVAIR

DIX—J. E., Dept. 3-1. Died May 17. Survivors include wife, Antonia.

ESKEW—Arthur M., formerly Dept. 25. Died May 30. Survived by wife, Mary; two sons, two daughters; two brothers and one sister; 11 grandchildren.

Rider-Driver

CONVAIR

RIDE WANTED—7:30 a.m.-4:30 p.m. Encinitas to Plant 1. S. R. Milis, home phone PL-3-4823, or plant ext. 2842.

3:30 p.m.-12 midnight, Pioneer Way, El Cajon, to Plant 1. Mary Ann Pennington, HI-4-0587, or plant ext. 1220.

* * *

CAR POOL—7:30 a.m.-4:30 p.m. Encinitas to Plant 1. S. R. Milis, home phone PL-3-4823, or plant ext. 2842.

7:30 a.m.-4:30 p.m. Del Mar area to Convair. A. Wilson, SK-5-4438 or plant ext. 611 or 619.

Astro's J. D. Edmonds Wins Fellowship to Cornell University

A young man, 22, who has worked full time in the GD/Convair physics lab the last three years and carried a complete college load, has been awarded a one-year fellowship to Cornell University.

James D. Edmonds, now attached to GD/Astro Dept. 596, was notified last week that he had been accepted for a RCA-sponsored fellowship in engineering physics. All tuition and fees are paid for a year, in addition to a $2,100 grant for expenses.

Edmonds will be graduated from San Diego State College this month with an AB degree in physics. He plans to work toward his master's and, eventually, his doctorate. He plans to leave for New York in August, together with his wife and two children, to enter the fall semester at Cornell.

Hundreds Visit New Lab Areas

(Continued from Page 1)

clean electronic manufacturing area in the nation.

The laboratory has a complete temperature, humidity and dust-controlled atmosphere. Ceilings were lowered in many areas, air locks are provided as entrances to special ultra-clean rooms where precision work is in progress. The air locks automatically bathe a worker in a blast of air just before he enters the special rooms. The air blast prevents dust and contamination being carried to sensitive instruments.

"The new lab puts us in an excellent competitive position," Lawrence said. "We now have the most modern facilities available for the fabrication of radar systems. The intricate physical characteristics of existing and future electronic projects in the division prompted the extensive improvements."

Missile Unit Order Placed

General Dynamics/Convair will fabricate units for the Air Force Minuteman missile under a recent purchase order from North American Aviation Co.

North American is a subcontractor for Boeing Co., prime contractor on the Minuteman.

GD/Convair's part will be to construct 39 guidance body section assemblies. It will manufacture tooling and parts for the structural portion of the cone-shaped part.

Amount of the order is $135,000 and date of completion is November of this year.

C-141 Engineers Design Mockup

(Continued from Page 1)

nected by an opening cut through the center spar.

Light magnesium ladders extend upwards through both fore and aft parts. Length of forward ladder is approximately 200 inches, that of the aft ladder, about 160 inches.

The mockup, representing the lower quarter of the entire vertical fin, was built in experimental model shop. It is complete with a short magnesium ladder, cutaway ribs, and all necessary structure to demonstrate clearance.

First cuts were due to be made on a C-141 production part this week, said J. M. Adamson, C-141 project manager. Static test article is due to be delivered to the Marietta, Ga., plant in March of next year, and first production empennage in April.

HODGINS ASSUMES CUSTOMER POST

Frederick L. Hodgins has been named manager of customer requirements for General Dynamics/Electronics division at San Diego, J. Walton Colvin, manager of plans and programs, has announced.



F. L. Hodgins

In his new position, Hodgins will be responsible for determining customers' requirements and implementing programs that will result in new business, said Colvin.

Hodgins transferred to San Diego from General Dynamics / Electronics, Rochester, N.Y. There he had served as sales and general product manager in the field service department.

Before joining General Dynamics in 1960 he had been with General Electric Co., Utica, N. Y., as sales engineer. Previously he was with Jack & Heinz Co. He served with the U.S. Army Air Force from 1943 to 1946.

Hodgins is a graduate of the American Television Institute of Technology and also attended Fenn College in Ohio and Washington University, St. Louis, Mo.



STUDY PERIOD—Five GD/Electronics men making up team in GD/E's first value control course concentrate during one session of just-concluded program. From left, Walt Morrison, Jack Skimin, Fred Klukas, Don Anderson, Wayne McGee. General Manager William Lawrence looks on.

Cost Cut Drive Shows Results As Overhead Brought Down

General Dynamics/Convair's continuing war on costs is bringing results in reduction of overhead expenses.

Reports of conservation monitors spearheading the cost-cutting program show division-wide efforts in such areas as travel expenditures, office and operating supplies, perishable tools and perishable equipment, utilities, telephone and telegraph services.

Six GD/Convair men, named by J. H. Famme, division president, to monitor the conservation drive are Vern Sharp, chief of maintenance and construction; M. C. Curtis, assistant chief engineer-administration; H. L. Montgomery, manager of graphic services; F. H. McLaughlin, factory manager; E. H. Damarus, chief tool engineer; and F. N. Minter, manager of budgets.

In progress are 11 specific projects for reducing electric power, lights, and water consumption.

Corrective and improved power and lighting units, meters and other control devices are being installed for greater efficiency, reports Sharp. Also, an educational program for operating personnel, reminders throughout the plant, and constant monitoring by each department will help keep utility costs within limits, he predicted.

McLaughlin, monitor for operating supplies, has developed operating supplies cost ratios to show average costs per 1,000 direct labor hours. From this base he can measure improvements in each department.

First quarter expenditures for perishable tools and perishable equipment were $33,000 under budget. To continue reduction Damarus emphasizes importance of constant screening of procurement requests and rework of "throw-away" items where possible. In the last six months, he said, 1,749 router cutters, which cost $1.05 each have been reworked and put back in use at a cost of 35 cents apiece.

Montgomery, monitor for stationery and special supplies, said that $4,000 in annual savings has been realized by switching to a new type duplicating machine instead of offset presses for repetitive items such as division notices.

Still another indication of effectiveness of tightened controls over expenditures is shown in Minter's report that first quarter travel expenses were $52,000 under budget.

To place even greater emphasis on the division's overhead cost reduction efforts, industrial engineering and factory departments are sponsoring an overhead cost reduction seminar.

Six lecture and work sessions are scheduled over the next few weeks. Teams of selected employees will be trained to guide the activity on specific projects, according to G. J. Bartolomei, industrial engineering value control coordinator.

Research Directed At Limited War

(Continued from Page 1)

and surface weapons and craft that capitalize on the division's long experience in hydrodynamics.

"All the armed services have established special commands for limited warfare training and development," Famme added. "GD/Convair will work closely with each of them to find ways to put to work the division's capability for design and manufacture of limited warfare weapons, aircraft and surface vehicles."

June 9 Picnic Price To Be $1 a Family

Last call is out to GD/Convair Management Club members to get their tickets for the June 9 family picnic.

Tickets are still available at regular outlets at cut-rate price of $1 per family.

A jam-packed day of fun and entertainment is on tap for all at the CRA Pecan Park, said B. T. McMicken, general chairman. Factory departments are sponsoring.



CLUB LEADERS—New officers for GD/Convair Management Club installed first of month are (from left, seated) M. L. Sweeney, treasurer; P. A. Hamm, first vice president; E. R. Fink, president; Ralph Montgomery, second vice president; Harry Lund, recording secretary. Standing are (from left) new board of control members G. O. Couchman, C. M. Durst, W. S. Nader, J. R. Benedict, L. C. Stuckey, D. L. Macey; and financial secretary, Joe Freeman. At extreme right is J. J. Janda of GD/Astro and NMA director for SD area, who installed group.

General Dynamics NEWS

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GD/Electronics (San Diego) news contacts: Helen Wood, CY-8-8331, ext. 15, 1895 Hancock St.; Betty Freeby, CY-8-4641, ext. 1377, Plant 1, Bldg. 51.

Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: James Combs Jr., editor; Carol Colbert. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

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Tapes 'Trouble Shoot' Hustler Systems by Speedy Mobile Tests

Air Force and GD/Fort Worth are using automatic tape testers to insure rapid turn-around flights for the ultra-sophisticated B-58 Hustler.

Carswell and Bunker Hill AFB airmen can refer to a technical library with over 400 tapes. They are used in four mobile testers—used to check an entire system—and in component-checkers in the electronic shops to pinpoint defective circuits.

The automatic tape testers are used on the Hustler's more complex systems. They can check out systems automatically in a matter of hours, an operation that would often require days using manual methods.

"Using a tester, for example, we can check out the fire control system in about 85 per cent less time than required by manual methods," said S/Sgt. Sam Alston, a shop supervisor at Carswell.

Other systems checked with mobile testers are the military navigation, bombing/navigation, and flight-control.

Mobile trailers are used to detect "no go" conditions in a system's Line Replacement Unit (LRU), electronic "packages" which comprise the system and can be removed much like a cabinet drawer.

Another tape is then applied to an LRU tester in the shop to pinpoint defects within the package.

Used in conjunction with the tape in each test are manuals which detail precisely what to do during any phase of the test.

Supplying the tough mylar tape—nearly 3,200,000 feet of it during the past 15 months—is the tape service unit center at GD/Fort Worth.

"We furnish the original tape, along with revisions, to Air Force and other involved people," said D. H. Anderson, tape service unit coordinator. "We have a complete record of virtually every test and every operational tape in existence."

Another important tape service unit function is to check the production tape against the master unit. Pridefully, the center can boast of never having sent out a "non-conforming" tape—representing billions of punched holes.

Service publications at GD/Fort Worth furnishes operating manuals which go with each tape.

The design group of the aerosystems section of engineering initiates action, deciding how to perform tests and how to program this intricate information onto tapes.

"Increased complexity of modern weapon systems such as in the B-58 has made it necessary to create this entirely new concept of testing," said R. H. Dietz, senior aerosystems engineer.

"We realized back in 1957 that we would need a checkout system for the B-58 which would not only tell whether the system was functioning properly, but also indicate the location of a fault and furnish simple maintenance instructions for correcting it."

Dietz stated that GD/Fort Worth engineers are now formulating methods for using general purpose digital computers to program test tapes.

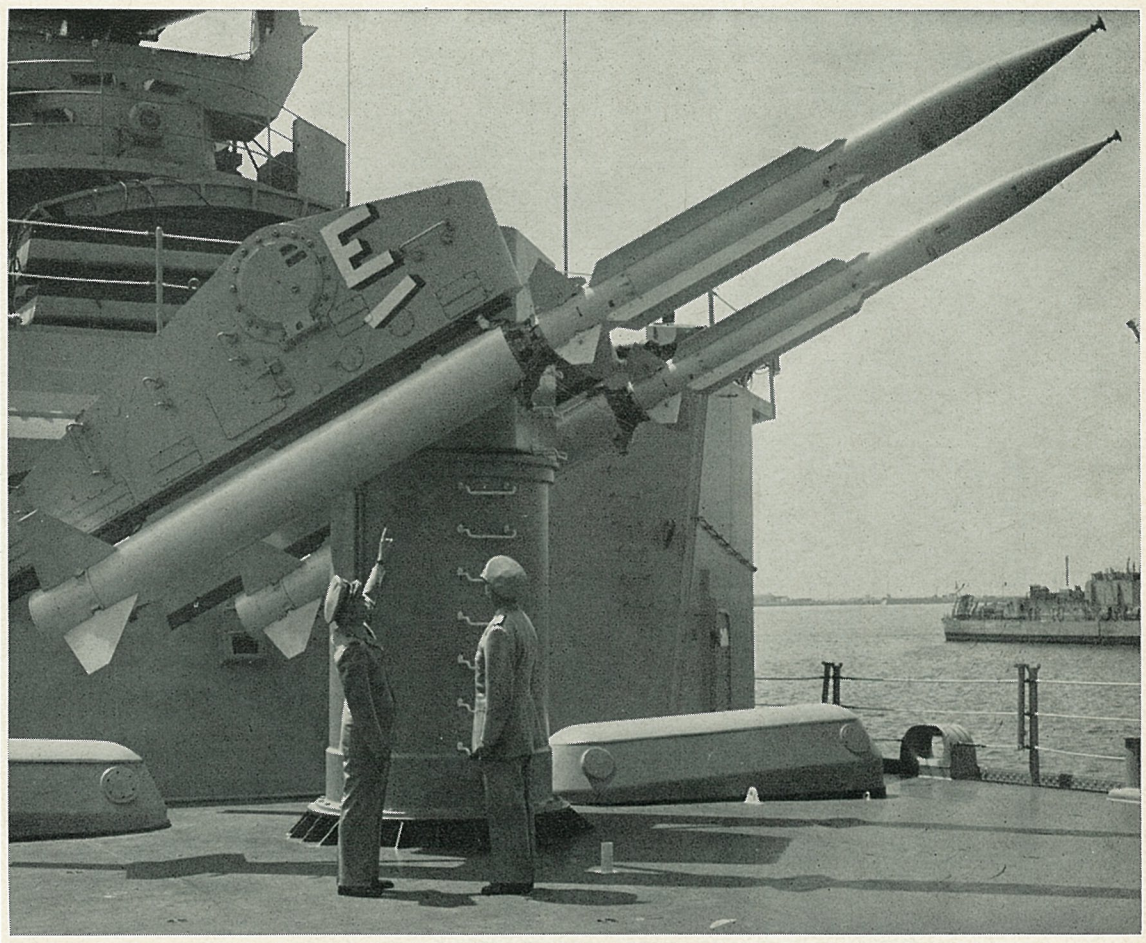
"Techniques are now being investigated to allow the engineer to write out word statements to describe each test," Dietz said.

"This eliminates the need for coding and decoding into tester language. Word statements are then fed into the IBM 7090 in the engineering computer lab, and the computer automatically punches the required master tape."

Tests are ordinarily run after each Hustler flight on which a squawk is reported—and at other routine intervals.

HALLSE TO PRESENT SYMPOSIUM PAPER

R. L. Hallse, Dept. 6, General Dynamics/Pomona, was scheduled to present a paper this week at the ASD-OSU Electromagnetic Window Symposium at Ohio State University, Columbus, Ohio. Subject of the paper was "Slip Cast Fused Silica Radomes."



DOUBLE "E"—Capt. B. D. Voeglin, commanding officer of USS Providence, and Rear Adm. K. L. Veth, Commander Mine Force, U. S. Pacific Fleet/Commander Naval Base Los Angeles, inspect hashmark on Terrier missile launcher, signifying warship's second "E" earned in fleet competition. Adm. Veth was ship's first skipper after recommissioning in 1959. Providence soon will become flagship for Commander Seventh Fleet in Western Pacific.—U. S. Navy photo.

Course to Deal With Control Techniques

A GD/Astronautics PERT expert will instruct a new course in Advanced Program Control Techniques during summer session of University of California Extension in San Diego.

Robert M. Jirgal, assistant supervisor in the base activation PERT group at GD/Astro, will review current programming techniques and their application in industry as management procedural tools. The PERT (Program Evaluation Review Technique) will be emphasized.

Course opens June 26 and will continue twice a week, on Tuesdays and Thursdays, 7:30-9:30 p.m., in Room 302, Roosevelt Jr. High School. Enrollment may be made through Extension office, 1221 Fourth Ave., San Diego.

Hustler Crewmen Checked Out In Water-Bailout Techniques

B-58 crewmen from GD/Fort Worth flight department and Air Force acceptance office recently practiced "bailout" over water at the U. S. Naval Air Station, Grand Prairie, Texas.

R. L. Johnson, manager of flight, and Grover Tate, project flight engineer, instructed the three-hour course, which included dropping from a crane into a lake.

Each conferee went through a routine of releasing a chute harness, dropping into water, inflating a Mae West, and inflating and boarding a survival raft.

Jack Blackmon, who was shot down over the Pacific in World War II while a B-29 flight engineer, demonstrated latest water-bailout techniques.

In the group from GD/Fort Worth were Tate, Val Prahl, Fred Voorhees, Vince Kane, Fred Hewes, Norm Stranberg, Mike Keller, Dale Ford, Max Runyan, and Blackmon.

Air Force flight acceptance crewmen present were Lt. Col. J. B. Thomson, Maj. C. R. Keogh, Capts. T. H. McMullen, C. W. Boyd, R. E. Clark, and N. H. Lane, C/M/Sgts. G. W. Hubbard, and F. C. Monte, and M/Sgt. F. E. Pulley.

General Dynamics Men Pass State Bar

General Dynamics men, now qualified to practice law in the state of California, include two from San Diego divisions and one from Pomona, following recent notification.

J. A. Moore, legal counsel for GD/Electronics at San Diego; L. B. Case, material adviser at GD/Convair; and B. Ousley of GD/Pomona's legal staff, have passed the 1962 spring examination of the California State Bar.

Successful candidates will be certified by bar examiners at ceremonies before the state Supreme Court in Los Angeles June 7.

NEW ZEALANDER TOURS FACILITIES

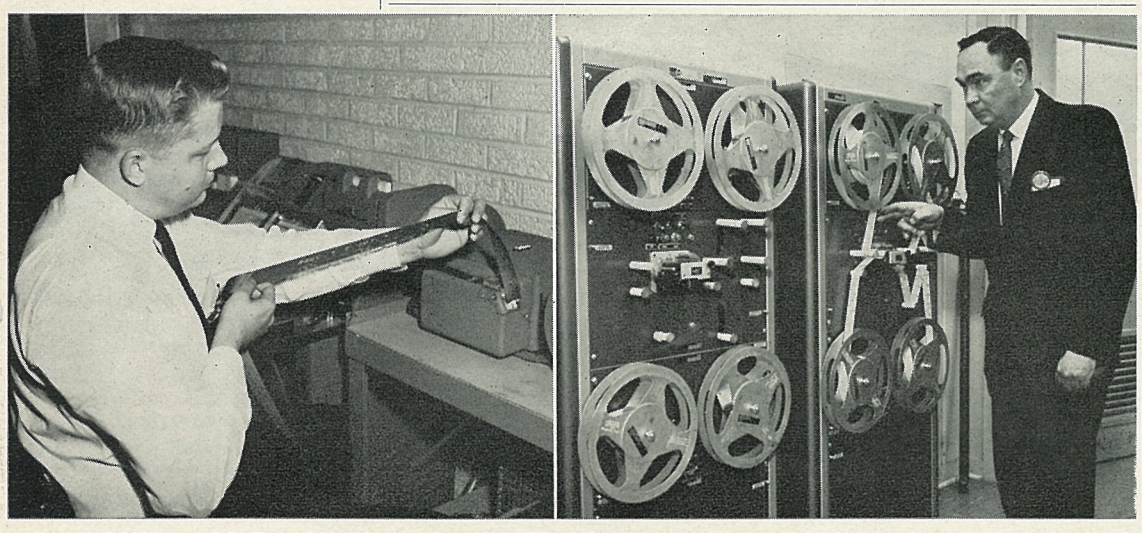
A member of the New Zealand Parliament spent a couple of days last week (May 31-June 1) at General Dynamics facilities in San Diego.

The Hon. Norman Eric Kirk, accompanied by Miller Smith of Canadair Limited's Los Angeles office, were welcomed and briefed on the General Dynamics organization by J. H. Famme, GD/Convair president, and R. A. Neale, GD/Convair vice president and general manager.

R. L. Runnalls of engineering flight test gave a presentation on the Convair jet airliners and W. W. Lynt of communication directed a tour of the GD/Convair plant.

Kirk was shown the GD/Electronics new electronic manufacturing area by GD/E general manager, William Lawrence, at the June 1 open house.

He is in the country as a guest of the U. S. Department of State as a participant in the Foreign Leader Program.

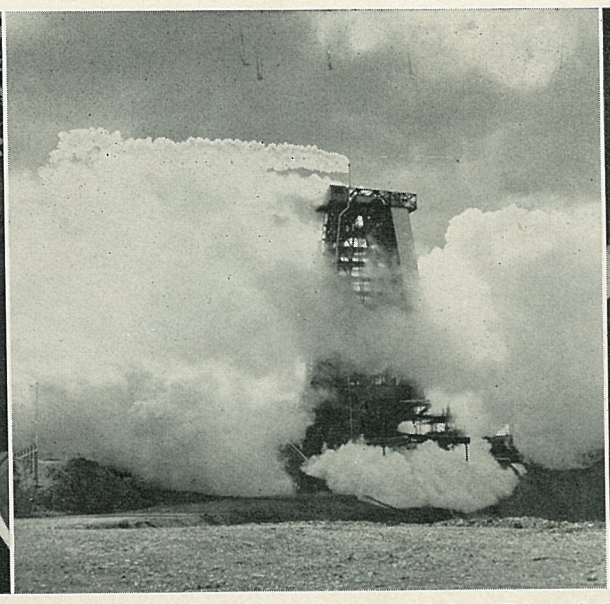


TAPE TOWN—GD/Fort Worth produces B-58 "check up" tapes at division's tape service unit center. At left R. H. Dietz, senior aerosystems engineer, holds master tape, from which other tapes are made, as it emerges from 046 tape card punch in computer lab. At right, D. H. Anderson, center coordinator, demonstrates system that insures copies conform to master.



TAPE TESTING—In 43rd A&E Maintenance Squadron Library at Carswell AFB, Fort Worth, A/1c Leo LaValley (center) keeps track of more than 400 tapes used to trouble-shoot aircraft systems. At left A/1c Coleman Keith tests B-58 fire control unit in electronic shop, while at right S/Sgt. Robert L. Carter operates mobile tester to check fire control unit on front line Hustler. Note manual that explains each phase of operation.







AROUND THE BASES—Left: K. E. Newton, GD/Astro manager at Vandenberg AFB, second from left, and Shirley Nixon, Dept. 576-5, present $2,320 gift from Employees' Con-Trib-Club to John Hanna, representing Lompoc Community Hospital, Dr. Joseph Ziemba, Sisters Hospital, Joseph Sesto Jr., Santa Maria Heart Fund, James Wycherley, Santa Maria County Hospital. Center: shrouded in steam, GD/Astro test stand 1-1 at Edwards RS is shown at end of hot firing. Astro work force at Edwards now is part of Centaur organization. Right: B. G. MacNabb, GD/Astro operations manager at Cape Canaveral, presents Lt. Col. John Glenn with mounted "P-609" plug which separates as Mercury-Atlas lifts off for space. Memento was presented at Cocoa, Fla., dinner for all Astronauts.

Ceremonial Tea Served

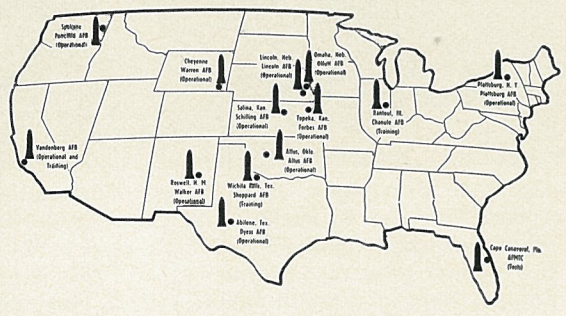
LINCOLN AFB—Nobuko Tsukui, Japanese student at the University of Nebraska, demonstrated the traditional tea ceremony of her native land at the May luncheon of GD/Astro Wives' Club here.

Held at the Plainsman Hotel, the program was arranged by a committee of Mrs. Hugh Laird, chairman; Mrs. Arthur Lillis, Mrs. Fred Quick, and Mrs. Alan Ishikawa.

The latter, a native American of Japanese descent, assisted in insuring authenticity of the program and in meeting-room decor.

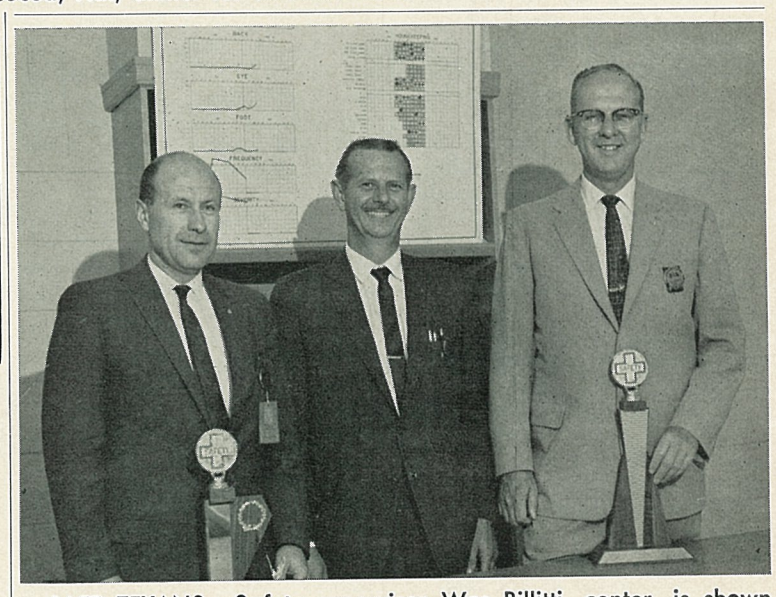
Also adding to the oriental flavor of the event was Ushemi (Mrs. H. J.) LaBlanc, GD/Astro wife, who wore the costume of her native Japan.

Nearly 100 members and guests attended the buffet and program.

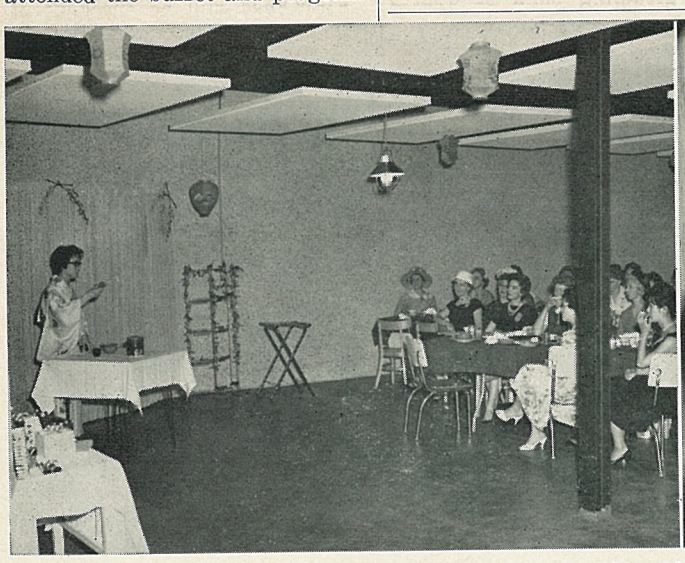


OFF-SITE NEWS

AFMTC—P. C. Brown, ext. 3-4741.
ALTUS—A. P. Dawkins, ext. 7141.
DYESS—G. D. Higgins III, ext. 8370.
EDWARDS RS—Chris Marques, ext. 27.
LINCOLN—Maxine Utley, ext. 412.
PLATTSBURGH—Elly FitzPatrick, ext. 6281.
SCHILLING—J. E. Riley, ext. 213.
SHEPPARD—Steve Delbridge, ext. 8243.
VANDENBERG—Lucy Signorelli, ext. 8-5046.
WALKER—Rod Bricker, ext. 603.
WARREN—Bill Jack, 77-466.



SAFE TEXANS—Safety supervisor Wes Billitti, center, is shown with recent recipients of housekeeping and safety trophies at Dyess AFB. George McHenry, design liaison engineering, left, and Tom Daugherty, material control, have each won monthly awards three consecutive times.







TRADITIONAL—In center photo GD/Astro wives Mrs. Alan Ishikawa, left, and Mrs. H. J. LaBlanc, right, pose with Nobuko Tsukui, guest, who demonstrated traditional Japanese tea ceremony at wives meeting at Lincoln AFB. She is University of Nebraska student.

Titanium Study Will Continue In High Temperature Field

General Dynamics/Convair has been awarded a contract to evaluate the newest titanium alloys at extremely high temperatures.

The contract, in the amount of about $98,000, is administered by the Manufacturing Technology Laboratory, Aeronautical Systems Division, Wright-Patterson AFB, Ohio. Research under a $1½-million titanium development program was recently completed by GD/Convair for the Air Force.

The current study program calls explicitly for tests on titanium alloys for use at 1,000 degrees F. Heretofore, existing titanium alloys have been restricted to 800 degrees F. maximum operating temperature.

Use of titanium in the 1,000-degree temperature range will substantially improve performance of supersonic transport planes, missiles, and vehicles for space exploration, according to Stan Carpenter, who is directing the program for engineering.

Improved performance is achieved by the relatively low weight of titanium and its high strength and creep resistance at 1,000 degrees F., he explained. The alloys have good weldability which expands the scope of titanium application and manufacture.

Three alloys will be evaluated. From these, one will be selected for manufacture of two components to be tested at the 1,000-degree F. temperature under static and repeated load conditions.

Resources engineering personnel, under W. E. Wise, manager, will manufacture the components.

"The research that GD/Convair has done in titanium places it in a foremost position for design, development and manufacture of titanium components," stressed Carpenter.

Project monitor at Wright-Patterson is R. T. Jameson who will follow progress of the program closely to its conclusion.

WEDS IN EAST

PLATTSBURGH AFB — Sharon Recore of GD/Astro production planning (Dept. 620-2) here, became the bride of Francis Roberts of Plattsburgh May 26. The couple honeymooned in Washington, D. C.

Heavy Donation Of Blood Asked At June 28 Visit

An all-out response is urged from blood donors at GD/Convair and GD/Electronics at the first bloodmobile visit in several months.

The bloodmobile will be at Plant 1 on June 28. Cards will go to supervisors in all departments by June 18 for sign up of as many first-shift volunteers as possible.

Blood supply for GD/Convair and GD/Electronics people and their families is almost at the depletion point, said Ken Wulfemeyer of employee services. At least 500 donors are needed to get enough to put the division's blood credit back on the board.

Enough blood will have to be collected at this visit to carry through a six-month period, until another collection is scheduled, Wulfemeyer said, in urging everyone to turn out.

Bloodmobile will be located in the military conference room, Bldg. 4, Plant 1, from 10 a.m. until 2 p.m.

GD/Convair Team Surveys TWA in Performance Studies

Two General Dynamics/Convair men were among aircraft industry representatives singled out by Trans World Airlines to take an overall look at its operations.

R. L. Runnalls of engineering flight test and Don Maxion of customer service spent two weeks recently traveling over TWA routes on every type of the airline's craft, including Convair 880s.

They were invited by TWA, along with selected delegates from other companies, to act as impartial observers during the airline's 1962 performance audit. Others represented General Electric Co., Boeing Co., Lockheed-California Co., Pratt & Whitney, Wright Aeronautical Co.

Assignment was to turn a critical eye on all phases of the airline's passenger operations — aircraft performance, operating procedures, general aircraft condition, ground equipment. And, most important of all, they were instructed to pay close attention to customer service from the time the passenger calls for a reservation until he picks up his baggage at the end of the trip.

Maxion made a circle of the United States from Kansas City, Mo., headquarters to Chicago, New York, Phoenix, Los Angeles, San Francisco, and back to Kansas City for the May 3 debriefing. Runnalls traveled Chicago, Baltimore, Phoenix, Albuquerque, to Kansas City.

Most significant factor disclosed during the survey, said Runnalls, was the vast improvement in Convair 880 reliability with TWA, as shown on maintenance records.

SPANISH COURSE OPEN TO JUNE 12

Prospective travelers in Mexico may still sign for the special Spanish course, pointed especially for tourists, at next Tuesday's (June 12) class.

The simplified language course, open to GD/Convair, GD/Electronics, GD/Astro people, began last night. It will run for nine weeks in Room 11, Conference Bldg., Balboa Park.

Photo Process Key to Making Metal Stencil

A "painting" problem which has had General Dynamics/Electronics manufacturing engineers scratching their heads has been solved with the help of GD/Convair photo technicians.

In what may well be the first application in industry, a photographic process is turning out etched metal stencils for precise and permanent marking of electronic assemblies.

Thousands of dollars in time and material will be saved with the new-type stencils, said R. W. Allen, GD/Electronics tooling representative in manufacturing engineering.

R. J. Hogue, manufacturing analyst, was appointed by G. L. Hale, supervisor in GD/E tool manufacturing, to head activities destined to solve the stenciling problem. He coordinated development of the unique process with GD/Convair photo lab.

Concept of the etched metal stencils stemmed from necessity. Customer requirements that location of all transistor points be marked on electronic assemblies and circuit boards sent tooling engineers searching for a stencil material that would hold its shape indefinitely.

Printed circuit boards must be labeled with the tiny symbols within thousandths of an inch, explained Allen, so that any stencil used must be exact.

Marking of terminal points is necessary to identify their position when repair in the field is required.

Silk screen, paper stencils and decals would not serve adequately. The silk screen type could not fit down close enough into the small areas of the assemblies. Neither the silk screen nor paper type would hold their shape nor take the thick, paste-like stencil ink for more than a couple of applications. And, use of paper decals was discarded because they might not stay permanently attached.

Cutting of symbols in metal was not feasible, since no tool could trace the tiny characters accurately or sharp enough for clear legibility.

GD/Electronics manufacturing engineers took their troubles to photo lab technicians.

K. O. Hanson, photo lab supervisor, and Ken Overfield went to work to develop a technique which now faithfully reproduces the complicated engineering drawings onto small brass sheets.

Other materials were tried, but brass proved the only metal suitable for sharp etching.

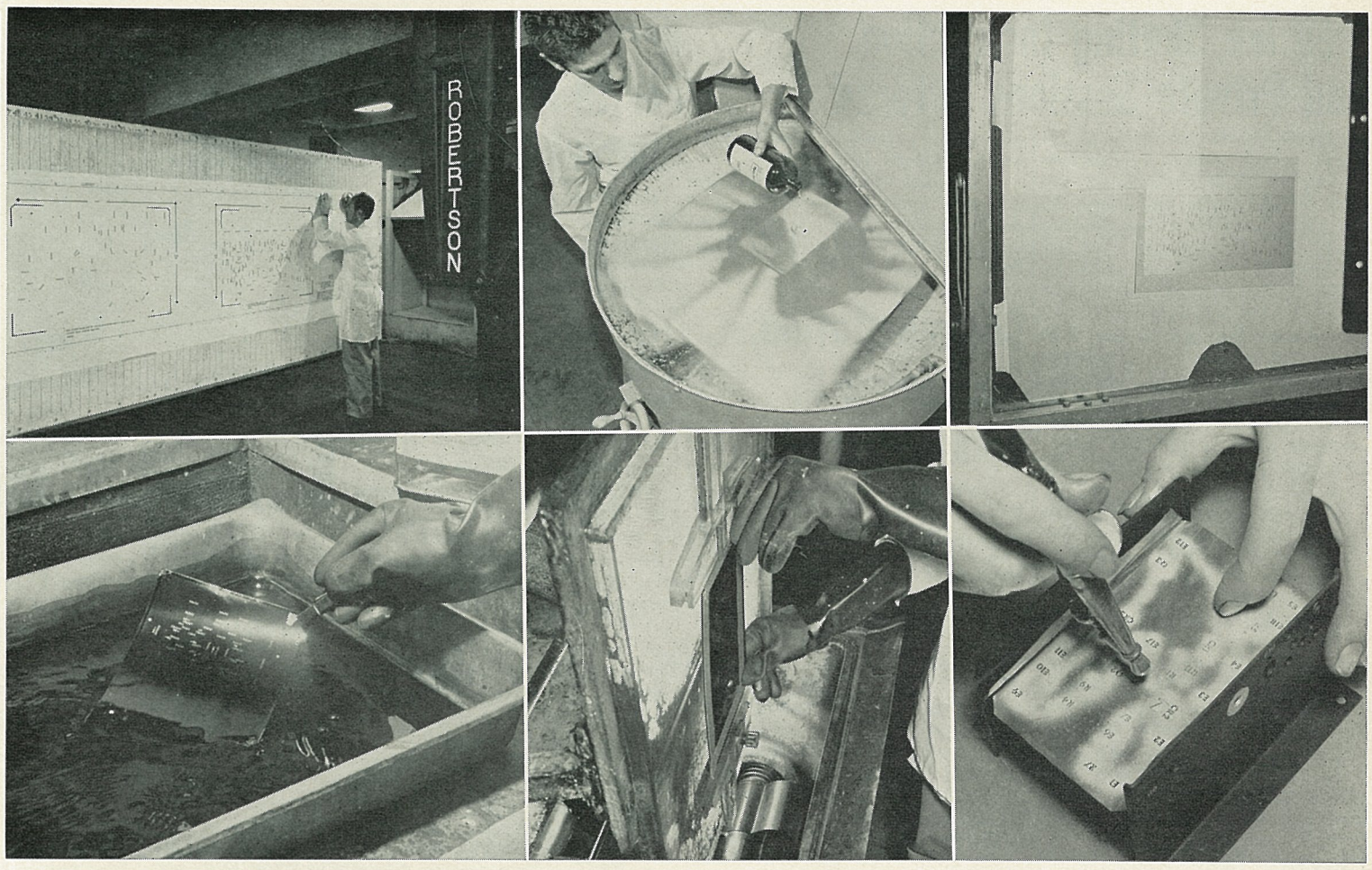
Photo masters, originating in GD/Electronics engineering, are photographed and reduced by the huge 48-inch Robertson template camera. The drawings, on dimensionally stable mylar sheets, are reduced to a quarter scale—a 6x9-in. negative is made of a 2x3-ft. drawing.

The negative is placed on a thin .004-in. sheet of photo sensitized brass of the same dimensions, and exposed to arc light rays. Next, the sensitized brass goes into a developer where the image is seen for the first time. The areas which have received no exposure are then soluble in water. Exposed parts are acid resistant and unexposed parts are open so that they can be etched out with acid. Final step comes in the etching machine where paddles mix air with acid to form a catalytic action etching away the exposed brass and come out with a perfect reproduction of the original drawing.

Characters are as small as 30-thousandths of an inch high on the finished brass sheets.

About 100 different types of these stencils are needed for the various assemblies fabricated in GD/Electronics manufacturing, Allen said.

"We feel that this is a revolutionary step in the use of photography to fill a need in the industrial field, especially with the ever-increasing demand for closer accuracies," said Hanson.



STENCIL MAKING—Unique photographic process producing perfect stencils on brass sheets in GD/Convair photo lab is portrayed above step by step: (1), top left, Bob Tabor attaches master to easel where it is held by vacuum as it is recorded on film in proper reduction by Robertson camera; (2) top center, Oscar Sorenson pours emulsion over brass sheet to sensitize it; (3) top right, negative and metal sheet exposed in vacuum frame to arc light rays; (4) lower left, after exposure sensitized brass sheet goes into developer; (5) lower center, it is placed in etching machine where exposed brass is etched away to leave legible stencil; (6) new-type metal stencil in use on GD/Electronics unit. Metal stencils solve problems of stability, legibility for marking electronic assemblies.



PERFECT MARKING—Ailene Judd, GD/Electronics stenciler at San Diego division, brushes thick stenciling Cat-I-ink over newly-developed brass stencil to mark exact locations of terminal points on electronic assembly chassis.

GD/Astro, GD/Convair Aerospace Experts To Speak at IAS National Summer Meet

Four General Dynamics aerospace experts will be on the agenda at the National Summer Meeting of Institute of Aerospace Sciences in Los Angeles, June 19-22.

Krafft Ehricke, director of advanced studies at GD/Astronautics, will speak on "Nuclear Propulsion for Boost Vehicles" at a secret session June 19. "Optimum Orientation of Solar Cell Panels" is the subject of Louis M. Reinkens, GD/Astro thermodynamics engineer, at the June 20 Spacecraft Forum.

R. W. McDonald, senior aerodynamics engineer, and W. D. Reeder, design specialist, of General Dynamics/Convair, will talk on "Research and Design of GETOL Aircraft" at the Near-Surface Air Vehicles session on the same day.

Engineers Elected To ASME Positions

Three GD/Fort Worth engineers were recently voted to offices in West Texas Section, American Society of Mechanical Engineers.

L. E. Erwin, thermodynamics design group, was elected chairman for 1962-63; W. L. Nix, engineering test laboratory, was voted secretary; and B. J. Pendley, structures cyclic fatigue group, was named a director.

The new officers were elected at ASME's recent annual honors and awards banquet.

Scholastic Efforts Given Recognition

Two General Dynamics youngsters were among 24 outstanding high school science students honored by Grossmont Union School District at ceremonies at San Miguel High School last month.

Martha Field, daughter of J. K. Field, chief of employee services, GD/Convair, was honored for accomplishments in biology, and Stuart Galley, son of GD/Astro's R. L. Galley, Dept. 557-3, received an award in mathematics.

Each received a professional scientific text book supplied by General Dynamics/Astronautics.

Young Galley also received honors for a technical paper in mathematics at the recent Technical Papers Symposium held at Naval Electronics Laboratory. He received a trophy, cash award, and the Bramwell award for mathematics.

Gleaming Gold 'Toaster' Used on Missile Parts

A gold-plated "toaster," assembled at General Dynamics/Convair, soon will go to work heating missile components destined for advance weapon systems.

The gleaming bank of quartz infrared lamps radiates a million watts power. Each of the 304 lamps is at least 3,200 watts—equivalent to the power in one deep fryer.

The reflectors are coated with white gold to direct the heat from the inside structure onto the specimen being tested.

The delicate lamps are divided into eight separate sections, each section with its own channel of power with control from eight separate thermocouples.

Missile components will be slipped over the top of the circular bank and heated from the inside to 715 degrees Fahrenheit, said E. Schiff, structures lab assistant group engineer. It will take a flash of 10 seconds to reach that temperature.

Thermocouples attached to both interior and exterior will measure temperatures on both sides of the components. Purpose of testing is to be sure the articles, made of a combination of fiber glass and metal, can withstand high temperatures without bubbling.

First task will be checkout of each component being built at GD/Convair for the Air Force's Minuteman.

The test tool was constructed in GD/Convair's special test tool manufacturing section which has built many unique tools for special testing of Convair jet interceptors and transports.

Monitoring scheduling for program control administration is J. R. Mikulsky, program analyst.

Huggens President Of Film Producers

G. M. Huggens, motion picture coordinator at General Dynamics/Pomona, has been elected president of the Southern California Chapter of the Industry Film Producer's Association.

Huggens was elected at the association's monthly meeting May 14 in Los Angeles.



"TOASTER"—D. A. Fletcher, structures lab engineer at GD/Convair, gingerly measures spacing between lamps in new million-watt heat lamp bank. Lamps must not be touched as grease from hands would absorb infrared, causing them to break.

Free Ice Skating Instruction And Private Sessions Offered

Private skating sessions at reduced prices, plus free instruction at all skill levels is offered General Dynamics employees by the joint ARA-CRA Ice Skating Club.

Activities center at Iceland, 6055 Lake Murray Blvd., La Mesa, where skating starts for the ARA-CRA group at 6:30 p.m., Thursdays, with reduced prices effective until 7:30 p.m. Participants enjoy exclusive use of the rink until 8 p.m., and may continue skating with the public until 10 p.m. at no additional cost.

Free instruction for beginners, intermediates, and advanced skaters is directed by Professional Audrey Ericson, with social dance routines emphasized for more skilled enthusiasts.

The group plans several weekend field trips during the summer, including visits to Glacier Falls (near Disneyland), Paramount, Pickwick Arena, Blue Jay (Arrowhead), and Big Bear Lake.

Prospective members may complete application forms at Iceland any Thursday. New membership cards for present members will be issued July 1.

Additional information on the group is available from CRA or ARA headquarters, or by contacting ARA Commissioner Bud Davies, Astro ext. 4042.

Fencers Take Part In Mixed Doubles With Scores Pooled

The joint ARA-CRA Convair Fencing Club has completed a tournament season of four meets open to all fencers in San Diego County.

Unusual was a mixed doubles tournament in late May in which men and women fencers entered as teams, fenced in their respective classes, and pooled scores for final results.

ARA Commissioner Mike Hurley and Audrey Knauer of San Diego Fencers Club (SDFC) placed first with nine wins, while CRA fencer Barbara Proppe and Tom Marocz, SDFC, were in second place. ARA fencer Inez Kirby teamed with Dick Jones, SDFC for third.

Tournament entries averaged 10 per contest. Of the 25 active fencers in the San Diego area, nearly half are Convair Fencing Club members.

Astro and Convair Golfers Runners-up In IRC Tournament

Over 40 golfers from General Dynamics joined in the 20th annual IRC golf championship tourney during the weekends of May 12-13, 19-20 at Torrey Pines.

Six emerged winners. R. R. Reid of GD/Astro won the 10th flight, downing A. Schultz, Muni employee, 1 up.

Runners-up included Fred Wells of GD/Convair, second flight, John Jodka, also GD/Convair, fifth flight. Ed Stuchly of Astro was second in third flight, D. P. Bender, also GD/Astro, second, 11th flight. B. Merrelees of GD/Electronics lost to the winner of the 9th flight.

Altogether, 15 companies in the San Diego area were represented. GD/Convair had more golfers, 22, entered than any other group.

Space Propulsion Address Scheduled

All General Dynamics people interested in space propulsion are invited to the open meeting of Aerospace Electrical Society next week (June 14) in Balboa Park's Recital Hall, 7:30 p.m.

Robert Speiser of Electro-Optical Systems, Inc., Pasadena, Calif., will speak on cesium ion engines, their capabilities and uses for propelling men and heavy equipment in deep space. Movies and slides will be shown.

For information contact E. F. Kotnik, ext. 2432, or Al Fabbri, ext. 1104, both GD/Convair Plant 1; C. F. McCabe, ext. 2244, Don Ritchart, ext. 1818, or Dave Moss, ext. 4382, all GD/Astro main site.

Documentation, Spacemen in Tourney Lead

Spacemen and Support Documentation are still on top of their leagues in the IRC volleyball tourney with Spacemen a cinch to take champ spot in the Friday League.

Play-offs between first and second-half winners will be scheduled at the end of tourney play, probably within the next week, said Pete Beyrer, CRA commissioner.

Last matches will be this Friday for the Friday League while Wednesday League teams wound up their play last week.

Scores in recent Wednesday night games saw Hounds defeating Convair Engineers, 15-12, 15-8 in Wednesday League's May 16 matches. NEL downed Astronets, 15-10, 15-13; Support Documentation beat City Engineers, 15-2, 15-5.

The next week Support Documentation had a 15-0, 15-0 score against Astronets. NEL won from Convair Engineers, 15-12, 15-10; Hounds from City Engineers, 15-12, 11-15, 15-11.

Spacemen continued their winning streak in May 18 and May 25 matches, defeating Design, 15-10, 15-5, and Project Support, 15-8, 15-10. Park and Recreation won from Project Support, 15-10, 15-11. The following week Park and Recreation was defeated by Dept. 101, 15-0, 15-0.

Games scheduled for Memorial Day were cancelled and will not be reset if standings are not affected, said Beyrer.

Helix Toastmaster Club Hailed as Best In San Diego Area

Mt. Helix Toastmasters' Club (126), composed largely of GD/Astro and GD/Convair employees, has been selected as the area's outstanding club in competition with 44 other clubs.

Present president is Jim Johnson (Dept. 951-7), while Seymour Zeenkov (Dept. 510-3) is educational vice president, Gary Hanssen (Dept. 526-2), secretary, and Al Torrible (Dept. 557-5), treasurer, all of Astro.

Past presidents include Astro's Charles Plummer (Dept. 152-0) and Tris Wooster (Dept. 578-1) and Ken Cummins, GD/Convair, Dept. 6.

Meetings are held at 7 p.m. each Wednesday in Helix House Restaurant, College Grove.

Spanish and Russian Courses to Start

Classes in beginning conversational Spanish and beginning Russian will start Monday (June 18) at San Diego Evening High School, 12th and Russ Sts.

Additional classes in advanced Russian and review Spanish also are offered during the summer session, June 18 through July 27. No fee is charged.

Anyone wishing to pre-register may call the school office, BE-3-7402.

Four-Week Salvage Schedule Arranged

Four-week schedule at the GD/Astro and GD/Convair salvage yards is:

GD/Convair—June 9, 23.

GD/Astro—June 16, 30.

Division yards are open for sales to employees on alternating Saturday mornings, 8 a.m. until noon.

Registration For In-Plant Courses Open

Registration is open now at San Diego for ten in-plant courses beginning the week of July 2 under sponsorship of GD/Convair and GD/Astro educational services.

Courses are open to first and second-shift people at any General Dynamics facility in the San Diego area, including GD/Convair, Plants 1 and 2, GD/Astro, Plants 1 and 2, Kearny Mesa, and GD/Electronics, Plants 1 and 2.

All courses are coordinated with San Diego City College, with six carrying college credit.

Offered are: Basic Electricity, Mon.-Wed., 4:30-7:30 p.m., CRA Clubhouse, Don Munger (Dept. 6) instructor; Basic Electronics-Theory and Components, Tues.-Thurs., 4:30-7:30 p.m., CRA Clubhouse, E. B. Milner, GD/Electronics, instructor.

Radio Communications (FCC License Review), Tues.-Thurs., 12:30-3:30 p.m., Bldg. 14, classroom 8, Plant 1, Tom Harris, GD/E, instructor. Basic Technical Writing, Mon.-Wed., 4:30-7:30 p.m., Bldg. 19, basement, classroom 3, Al Walden (Dept. 16), Intermediate Technical Writing, Tues.-Thurs., 4:30-7:30 p.m., Bldg. 19, basement, classroom 3, Louis Henderson (Dept. 16), instructor. Intermediate Technical Writing, Mon.-Wed., 12:30-3:30 p.m., Bldg. 19, classroom 3, Henderson, instructor. Basic Die Making, Tues.-Thurs., 12:30-3:30 p.m., Bldg. 32, classroom 9, Plant 1, Ed Gurling (Dept. 401), instructor.

Three courses will be taught by GD/Astro instructors at Plant 2 in the Bldg. 28 classroom. They are Basic Blueprint Reading, Mon.-Wed., 4:30-7 p.m., G. P. Webb. Advance Blueprint Reading, Tues.-Thurs., 4:30-7 p.m., Webb. Effective Writing, Mon.-Wed., 4:30-6:30 p.m., C. L. Adams.

Hal Rubin of GD/Astro educational services at ext. 1182, Plant 2, is taking applications for the courses at Plant 2.

For enrollment in any of the other courses contact L. W. Turner, ext. 491, GD/Convair Plant 1, or sign in the Bldg. 15 educational services offices.

GD/Convair Son Wins 'Day in Navy' Award

Randy Rathmann, son of Fred Rathmann of GD/Convair Dept. 15-4, won top award in the annual young journalists contest for his written account of a day at sea.

Randy, 18, a senior at Mission Bay High School, was chosen by the Naval Reserve Public Relations Company 11-1 as winner of "best published" story of his "Day in Navy" experience during Easter vacation. Nearly 200 journalism students from San Diego high schools participated.

Top prize was a portable typewriter given by The Union-Tribune Publishing Co.

The young winner, whose story appeared in the Pacific Beach Sentinel, is editor of his high school paper. He plans to major in journalism at San Diego State.

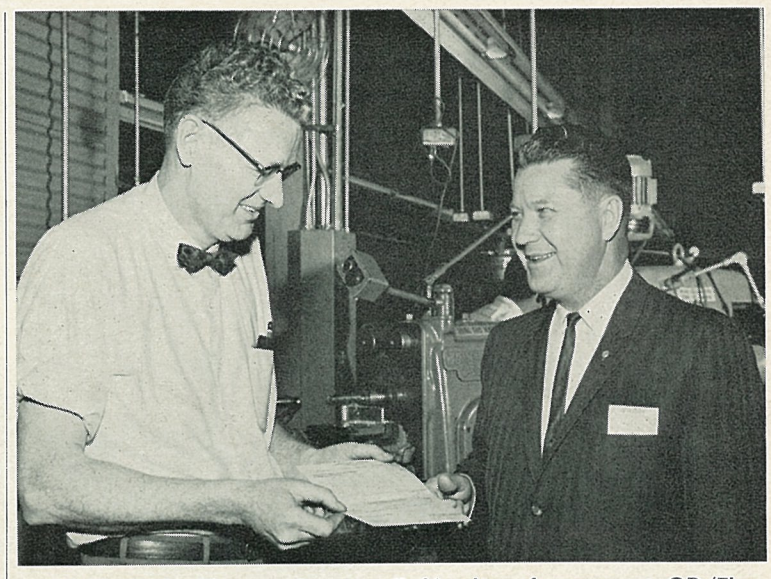
Trailer Fans Drive To Live Oak Park

A weekend outing at Live Oak Park in May attracted trailer fans from both ARA and CRA clubs. The event was sponsored by Astro Travelers with several guests from CRA's Road Runners.

Seventy-two persons in 13 trailers were on hand by Saturday evening for the traditional potluck supper. Later Ray Deven of Road Runners was caller for square dancing.

Men of the group turned out early Sunday morning to prepare breakfast.

Next Astro Travelers outing is slated for June 16 and 17 at Hulburd's Grove. Additional information on this trip is available from Steve Clark, Plant 2, ext. 1143.



GD/E GIFT—Thomas Brooten (left), shop foreman at GD/Electronics (Hancock St. facility) hands Henry A. Boney, United Fund 1961 campaign chairman, $1,000 check as partial payment on $10,000 pledge from Plant 2 people. Brooten's metal fabrication department contributed 100 per cent.

Road Runners Set Officers Election During June 15-17 Outing at Otay Lakes

All Road Runners are urged to be on hand to cast their votes for new club officers at the coming election.

Election will take place during the June 15-17 weekend outing to Otay Lakes campground, said Ralph East, CRA commissioner.

Site of the outing was chosen for its proximity so that everyone can be present, he explained. Members who will not be able to spend the whole weekend at the county park location near Chula Vista, are asked to drive out to take part in the election set for 2 p.m., Saturday.

Water and electricity is available at the Otay Lakes campground, and plenty of recreational facilities nearby. There are also playgrounds for the children, said Lowell Ward, assistant wagon master. Lee Rogers is directing the campout as wagon master.

The CRA group was joined by the Douglas Jetliners from Long Beach at the last outing May 18-20. Twelve vehicles from the Douglas trailer group and 25 carrying GD/Convair trailerites met at Live Oak Park near Fallbrook. A square dance and potluck dinner enlivened Saturday evening activities.

GD/E Collector Coin Club Veep

John Barrett of GD/Electronics has been appointed vice president of the CRA Coin Club to fill out the term of L. Reeder, reported Norm Neault, club president. Reeder is no longer with the company.

The May 17 trade night was so successful that members have decided to designate May as annual "trade month." At that time they will devote the entire monthly meeting to swapping.

"Coins of the World" is theme of exhibits to be displayed at the June 21 meeting. Coin Club sessions now are held in the main area of the Convair cafeteria, Pacific Hwy. Meeting time is 7:30 p.m.

Several members now are preparing individual displays to be entered in the numismatic exhibit at the 1962 Southern California Exposition at Del Mar the first week in July.

Club's Exhibit Uses Magazine Cover Idea

CRA Camera Club's exhibit, simulating a Playboy Magazine cover, captured first-place trophy in Photorama competition May 20 at Balboa Park. It was designed and built by club members.

Exhibition of Photorama slides, prints, and a character model shoot are slated for the June 11 meeting, 7:30 p.m., at Balboa Park's Photo Arts Bldg. Visitors are welcome.

Germeraad Earns Reserve Captaincy

Don Germeraad, GD/Convair chief engineering test pilot, recently was promoted to captain, United States Naval Reserve.

Since completing his 20 years in the reserve, Germeraad has been on associate status to a BuWeps training unit. He was a long-time member, and later skipper of a reserve squadron at North Island Naval Air Station.

'Slow Pitch' Teams Signed

Eight 10-man teams will swing into action in a new "slow pitch" softball league at GD/Convair next week.

Two have been entered by GD/Electronics departments, Purchasing and Production Control.

The rest, all GD/Convair, are Accounting, Stores Dispatch Plant 1, Hi-Lows, Manufacturing Control Plant 2, Electronics, Fire Department.

First practice is slated for tonight (June 6) on diamonds 3 and 4 on the Latter Day Saints fields at 47th and Ocean View Blvd. Games will be at 6:30 and 8:15 p.m.

League play will start next Wednesday (June 13).

Each team must furnish one ball. Rosters may include 15 men with 10 playing.

Bunting and stealing bases are not allowed.

Garden Club Hears Dahlia Discussion

CRA Garden Club members will hear a discussion on proper care of dahlias at their next meeting (June 13).

Larry Sisk, member of the San Diego County Dahlia Society, will speak to the group at 7:30 p.m. in the Floral Association Bldg., Balboa Park. Henry Boyd, club president, will be in charge of the session.

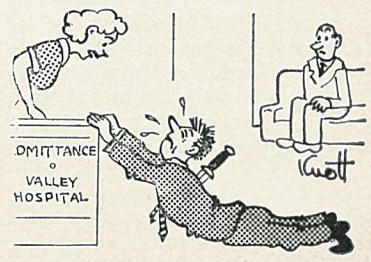
Meanwhile, plans are going ahead for the gardening club's share in the coming ARA-CRA summer show Aug. 12. Both GD/Convair and GD/Astro people will be showing dahlias, fruits and vegetables.

Lens Club to Take Color Slide Tour

George and Virginia Forbes (he's in GD/Convair Dept. 48) will show two of their colorful photographic tours at the June 9 meeting of Southern California Association of Camera Clubs.

The program, open to the public, free of charge, will be in Balboa Park's Recital Hall, 8 p.m.

The Forbes have titled their slide presentation, "Sight-seeing in the Southwest Corner," and "Cactus Country."



"Is this an emergency?"



TROPHY NIGHT—Winners of 21st annual GD/Convair bowling championships line up with trophies handed out by CRA Commissioners Jim Hayman and Mike Brooks May 18. Top row (from left), doubles winners Hayman, wife Catherine, Elmer and Clarice Aus, Omer Engels, (kneeling) Bill Neal, Richard Rickman; center shot, King Pins, top handicap team, Tony Minniti, Rickman, Neal, (kneeling) Ray Gibbons, Max Riedinger. Right shot is Strikers, top mixed team: Walt and Irene Duzyk, Robert and Jean Saunders, Jay Millhone. In bottom row, left photo shows Harry Lund (right) receiving congratulations on his "299" ring. Center shot is of singles winners, Archie Bridger, Judy Raffelson, Marty Munney. At far right, Mike Brooks shakes hands with Hayman as he awards all-events trophies. Others besides Hayman are Judy Raffelson, Clarice Aus, Rickman. Mavericks (not shown) won top scratch spot with 2,747 score.

Seven Archers Earn Right to State Finals

Billy Eagan, son of Bill Eagan (Dept. 48), was the only GD/Convair member of the CRA Archery Club competing in the California state finals at Salinas over last weekend (June 2-3).

Although seven members of the GD/Convair group were eligible to go into the finals competition by right of their standing at the State Regional, Billy was the only one able to take part.

CRA Commissioner Al Phipps, although eligible, did not participate because of his official duties as vice president of the California Bowman Hunters and Field Archers Association. However, several of the club's guest members shot in the finals.

GD/Convair winners in the May 20 Regional Shoot in Balboa Park were Bob Lorch (Dept. 401), fifth in Class 400 freestyle; Harry Rose, (Dept. 400), second, Class 400 barebow; Cliff Dorr, (Dept. 400), fourth, Class 325 freestyle; Phipps (Dept. 401), first, Class 325 barebow; Lloyd Dickenson (Dept. 401), second, Class 175 freestyle.

Dickenson, one of the newest members of the group, was taking part in only his second field shoot, said Phipps.

Mike Phipps placed first in the intermediate barebow and Billy Eagan was second in the junior barebow.

Nearly 60 contestants from all over the area took part in the elimination shoot.

Those placing through seventh spot were eligible to compete in the finals.

Next event for CRA archers is the open field shoot this coming Sunday (June 10) at Balboa Park Field Range.

Sports & Recreation

Young Trail Boss Leads Safari in Back Country

A 12-year-old trail boss led 24 riders of the GD/Convair group over the hills on a 22-mile ride during their May 19-20 outing.

Paul Sims, son of Roy (Dept. 280), did a yeoman-like job as he broke trail through the Cuyamaca Mountains from Hulburd's Grove near Descanso to Los Caballos camp.

Altogether some 75 members and their families, including a couple of the CRA group's former members, gathered for the weekend trip. Chuck wagon meals were prepared by wives on both Saturday and Sunday.

Saturday's trail ride was climaxed by a dance that night at the Cuyamaca Lakeview Resort with music by the Color Guard Combo. Sunday's ride took the horsemen around Stone Peak and onto the Banner Grade Trail into a chilly wind.

Specially welcomed were Vern Logan and Fred Kershaw and daughter. Logan and Kershaw were among original members of the group when it had its headquarters at the Scripps Fanita Ranch, over 10 years ago. V. V. Thomason, club president, extends a cordial invitation to all former members to join in the group's activities.

Plans for the June outing at the Bruce White ranch near Santee will be formed at tomorrow night's (June 7) meeting in Gillespie Field Clubhouse, 7:30 p.m.

Next parade appearance for the popular Color Guard will be this weekend (June 9-10) at the annual Marine Corps Rodeo at Camp Pendleton.

Skin Diving Expert To Talk at Chicago

Skin diving expert Donald R. Alden, GD/Electronics facilities engineer at San Diego, will speak at the Underwater Society of America national convention in Chicago, Aug. 17-19.

"Formation and Standardization of Search and Recovery Training" is the topic of his lecture.

Alden has been with General Dynamics ten years, serving as a GD/Convair field service representative on the F-102 program, and in various supervisory and engineering posts.

At present, Alden is president of San Diego Council of Diving Clubs and a member of board of governors, Underwater Society of America.

Keglers May Contact CRA on Plant Leagues

GD/Convair keglers are asked to contact CRA office, Bldg. 32, Plant 1, for any information concerning plant league bowling, said Commissioner Jim Hayman.

CRA extension is 1245.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. until 1 p.m., Clairemont Mesa Flying Site.

ARCHERY — Open field shoot Sunday (June 10) Balboa Park Field Range.

BOWLING — For information call CRA headquarters, ext. 1245, Plant 1.

BRIDGE CLUB—Weekly sessions every Tuesday, 7:30 p.m., Barcelona Hotel, 326 Juniper St.

CAMERA CLUB — Meeting June 11, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play every Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

COIN CLUB — Meeting June 21, 7:30 p.m., Convair main cafeteria, Pacific Hwy.

FENCING CLUB — Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th and C Sts.

FISHING — Meeting June 19, 7:30 p.m., Gillespie Field Clubhouse.

GARDEN CLUB — Meeting June 13, 7:30 p.m., Floral Assoc. Bldg., Balboa Park.

GUN CLUB—Meeting June 12, 7 p.m., Gillespie Field Clubhouse.

ICE SKATING—Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m., open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot June 10, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (June 7), 8 p.m., Harbor Drive headquarters.

RIDING CLUB—Meeting June 7, 7:30 p.m., Gillespie Field Clubhouse.

ROAD RUNNERS — Election of officers during June 15-17 weekend outing to Otay Lakes.

ROLLER SKATING — Free skate night June 18, Skateland, Front and G Sts. Tickets at employee services.

SOFTBALL — "Slow pitch" practice games tonight (June 6), Latter Day Saints fields, 47th and Ocean View Blvd.

SPANISH COURSE — Classes Tuesday evenings, 7-9:15 p.m., Room 11, Conference Bldg., Balboa Park. Enrollment closes June 12.

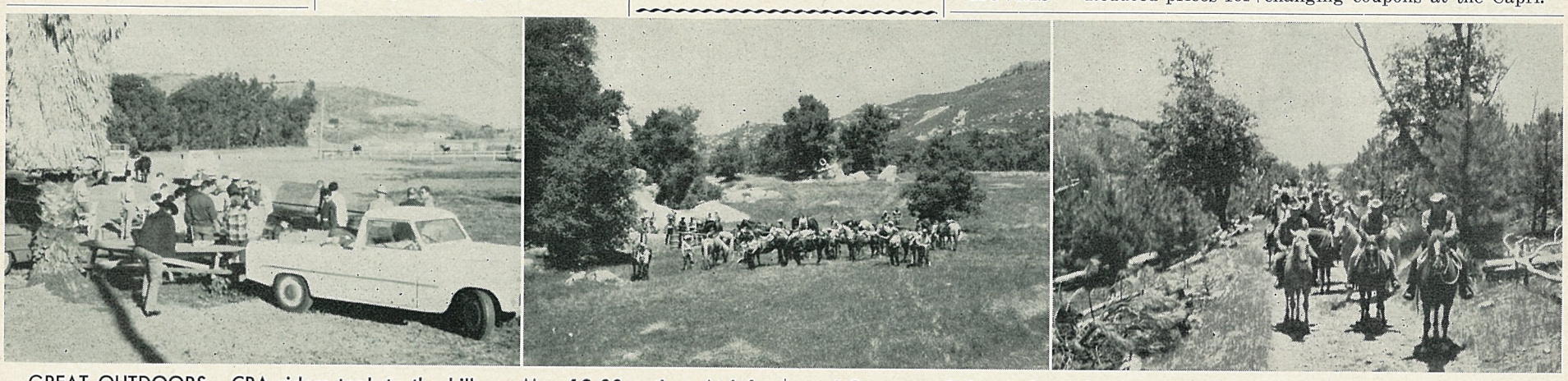
SQUARE DANCING — Birthday night June 12, American Legion Hall, 4061 Fairmount Ave., 8 p.m.

'WEST SIDE STORY' COUPONS OFFERED

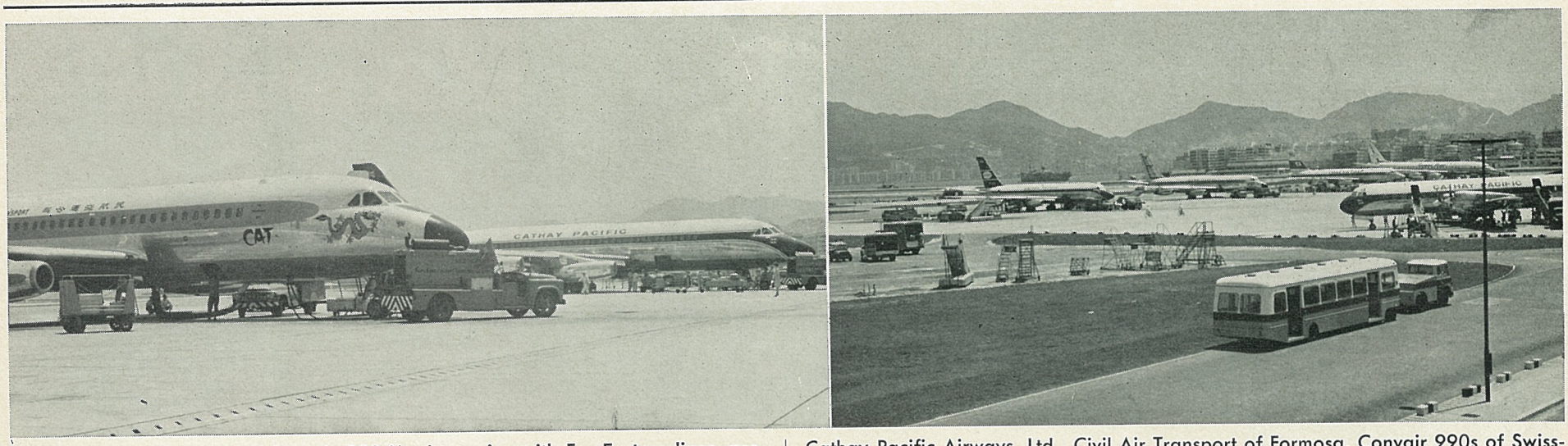
"West Side Story," winner of ten Academy awards, will be shown to GD/Convair and GD/Electronics employees at a saving, June 11-14, at Capri Theater, 3812 Park Blvd.

Coupons reflecting a 20 per cent discount are available at employee services, Bldg. 32, Plant 1. Reduced prices for loge and orchestra seats are $2 and $1.60.

Tickets may be obtained by exchanging coupons at the Capri.



GREAT OUTDOORS—CRA riders took to the hills on May 19-20 outing. At left, they assemble gear before saddling up at Hulburd's Grove. That is Jim Hill's back in foreground. Center, lunch break at Half-way campground between Descanso and Cuyamaca Lake. At far right, they're back in saddle to start climb up Cuyamaca Peak. Next trip will be a Saturday trail ride and wiener roast this month at Bruce White ranch. Photos were shot by club president, V. V. Thomason.



COSMOPOLITAN PORT—Convair 880-Ms, in service with Far Eastern lines, predominate apron at Hong Kong. Caught at same time in setting of hill-surrounded city, harbor in distance, are 880-Ms flying regular schedules for Japan Air Lines, Cathay Pacific Airways, Ltd., Civil Air Transport of Formosa. Convair 990s of Swissair and SAS are now touching at Hong Kong port. Shots were taken by Harry L. Addis, GD/Convair field service rep.

Six Jet 990s Serve 30 Cities, Philippines to South America

Convair 990s flying over Swissair's far-flung network are "about as international as they can get," reported L. J. Bordelon, chief of GD/Convair service engineering, on his recent return from a visit of Swissair operations.

Swissair has received six 990 Coronados, international version of the latest model jet airliner. Four are operated by the Zurich-based airline and two by SAS in conjunction with Thai International.

These six Convair-built craft operate through 30 cities, in nearly that many countries, stretching two-thirds of the way around the globe—from mid-Europe across the Middle East to the Philippines, and in the opposite direction, from Switzerland into Africa and on across the Atlantic to South America.

Swissair now operates 125 departures a week. List of cities served reads like a world gazetteer: Zurich, Athens, Istanbul, Ankara, Buenos Aires, Karachi, Tel Aviv, Geneva, Cairo, Beirut, Bombay, Bangkok, Abadan, Dharan, Baghdad, Teheran, Manila, Tokyo, Lisbon, Dakar, Rio de Janeiro, Sao Paulo, Montevideo, Hong Kong, Calcutta, Tripoli, Accra, Lagos, Khartoum.

Countries moving closer together, time-wise, with speedy jet links, are Switzerland, Greece, Turkey, Egypt, Israel, Lebanon, Iran, Iraq, Saudi Arabia, Pakistan, India, Thailand, Hong Kong, Japan, Philippines, Portugal, African countries on both coasts, Brazil, Argentina.

Latest inaugurated flights connect Zurich with Tripoli, Libya, and Accra and Lagos on Africa's Gold Coast; and Cairo with Khartoum in East Africa.

SAS went into passenger service with two 990s the first week in May in cooperation with Thai International. SAS operates from Copenhagen over Middle East routes, then along Thai International routes, with Thai cabin crews, from Bangkok to Singapore, Djakarta, Manila, Hong Kong, Tokyo. SAS then takes over to make the return flights to Copenhagen.

"Passenger reaction to the 990 is reported as gratifying," said Bordelon. "Features receiving the most comment were noise level, interior appointments, and performance.

"Swissair was quite pleased with the success of the 880-M operation and expects that the 990s will equal or surpass this experience."

Field service representatives covering the European area in support of Convair-built craft are Frank Laffoon, M. R. Addis and Ed Buckman.

Air Transportation Students Inspect JAL 880-M on Line

A group of future pilots and stewardesses visited General Dynamics/Convair last month (May 19) for a briefing on Convair jet transports.

Students in air transportation at Mt. San Antonio College, Walnut, Calif., 49 in all, inspected a Japan Air Lines 880-M on the line, heard how such a plane develops, from design board to flight test and on into service with airlines.

R. L. Runnalls, aircraft performance engineer, and Don Maxion of customer service training spoke and showed a film on the 880. Guiding the tour was W. W. Lynt of communication department.

Stewart Angle, head of the college's aero and transportation department, said the young men and women are all heading toward careers in some phase of air transportation.

Stork Wins as Dad Races to Hospital

Donald Danes, GD/Astro Dept. 547-5 at San Diego, recently became a father "the hard way." On May 16 he rushed his expectant wife, Ann, to the doctor, and was told to proceed to the hospital. But . . .

Five-pound, 9-ounce Kathleen made her debut in the family car a few minutes later, with only Danes, a police reservist, in attendance.

AMERICAN EXTENDS JET 990 SERVICE

American Airlines is extending Convair 990 Astrojet service to two more cities this month.

Inaugural flight of General Dynamics/Convair's latest model jet airliner into El Paso, Texas, was last Sunday (June 3). The 990 will make its initial flight into Phoenix, Ariz., June 17.

Now, American's 990 flight to El Paso leaves New York at 9:20 a.m., arriving at the Texas city at 12:05 p.m. after a stop at Dallas. The return 990 flight leaves El Paso at 1:40 p.m. and arrives at Idlewild at 9:40 p.m., also serving Dallas en route.

On June 17 the airline will start using 990 Astrojets on a daily round trip New York-Chicago-Phoenix. The flight will leave Idlewild at 9 a.m. Eastbound, the trip will depart Phoenix at 1:30 p.m.

With the delivery of more of the Convair jetliners, three more 990 flights will be flown on the New York-Chicago route. The 990s also will be put on Chicago-Dallas and Dallas-New York trips.

GD/Electronics Will Initiate Own Value Control Training Program

General Dynamics/Electronics division at San Diego yesterday wound up the pilot value control training course which initiates GD/E's own program tailored to meet its particular needs.

Popular demand among GD/Electronics people at the two San Diego facilities led to the decision to set up a separate program for the division, explained C. W. Christie, GD/E acting value control coordinator. Up to this time, GD/Electronics people had participated in the GD/Convair seminar series.

Approximately 60 GD/Electronics people have received indoctrination through GD/Convair capsule courses for executives or the regular 40-hour seminars.

"We feel that this is a most important step in scrutiny of our operations," said William Lawrence, GD/Electronics general manager. "As the program gains momentum, we will gain a clearer insight of all facets involved in producing high quality products at the lowest possible cost."

Emphasis in value control will be placed on cost improvement, streamlining of division systems, and examination of new business proposals.

Five employees from second shift met twice a week over the last three weeks from 4 to 6:30 p.m., spending 17½ hours in scheduled "classroom" work and an equal amount of outside time on research.

Fred Klukas, supervisor in inspection; Walt Morrison, engineering; Jack Skimin, operations supervisor; Don Anderson, production control supervisor; Wayne McGee, planning, were "guinea pigs" in the initial course. They applied value control techniques to an actual piece of hardware—a clearance set assembly of a control box.

The seven-session course served, in addition, as a training program for newly-named GD/Electronics departmental coordinators for value control, said Christie.

M. M. Reeder, GD/E value control coordinator, now on special assignment, explained the "functional approach" in opening briefings. Others talking on value control principles were Christie, W. H. Goggin of GD/Convair educational services, C. H. Flint, G. D. Patrick, L. Resnick, A. S. Freedman, L. M. Barnes, L. L. O'Neal, S. Spalter, G. F. Belgum.

Lawrence presented certificates at yesterday's (June 5) closing meeting.

A full-fledged program of GD/E conducted seminars start this month with one seminar to be held each month, Christie said.

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Nine departmental coordinators for value control have been named for General Dynamics/Electronics departments to spearhead all activities related to GD/E's new value control program.

They are G. F. Belgum (Dept. 2), controller's office and systems and procedures; A. S. Freedman (Dept. 3), reliability and quality control; R. J. Cary (Dept. 5), engineering; G. D. Patrick (Dept. 6), operations; L. L. O'Neal (Dept. 10), purchasing; and George Oatman (Dept. 12), industrial relations.

C. H. Flint, engineering; Robert Hickok, operations; R. C. Mansell, reliability and quality control, are coordinators at the Plant 2, Hancock St., facility.

Oatman Assigned To GD/E Facility

George Oatman, long-time GD/Convair veteran in industrial relations, has been appointed industrial relations representative for General Dynamics/Electronics Hancock St. facility.

Oatman first joined GD/Convair in 1941. Except for four years away from the company, he had been in industrial relations, at Plants 1 and 2 and Palmdale facility, throughout his entire service. From 1959 until he returned to San Diego plant last year, he was chief of industrial relations at Palmdale.

Two at GD/Astro Pocket $2,211 Each as Suggestion Pays Off

An Employee Suggestion with the greatest saving to General Dynamics/Astronautics from a single idea since inception of the ES program at the missile plant has earned its two originators $2,211 each!

W. V. "Whitey" Kime and V. K. DeBolt collaborated on the pace-setting proposal which has scored total savings of $44,221.

(Record for the highest GD/Astro award payment in the ES program is held by T. M. Johnson, Dept. 773, who in 1960 received $2,378.60 for a suggestion saving $23,786.)

Kime and DeBolt submitted their proposal in late 1959 when both were Dept. 759 welders. Kime remains in that department now as assistant foreman, while DeBolt is in Dept. 758 at Plant 2.

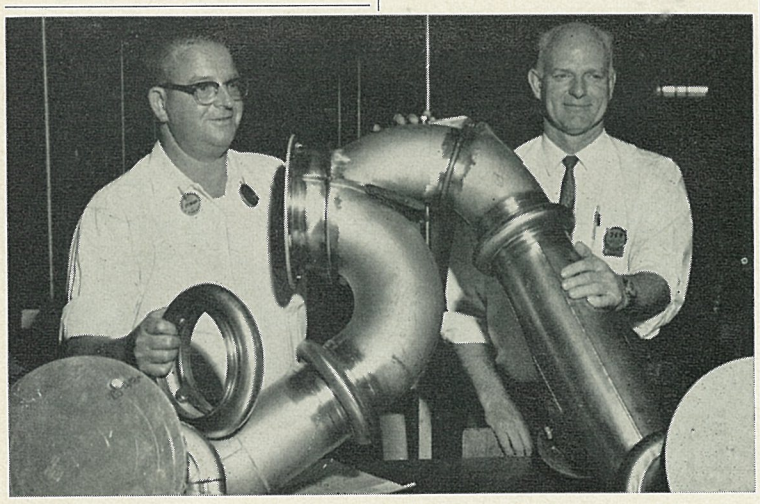
They proposed a revised method of welding Omega joints used on Atlas missile fuel and liquid oxygen assemblies, in which two thin metal parts were joined to a heavier part.

Because of "flashback" and "burning" during welding, frequent leaks developed, resulting in a high rejection rate for the joints. In their ES, the two suggested "seam tack welding" the two thin materials, with subsequent welding to the heavy unit.

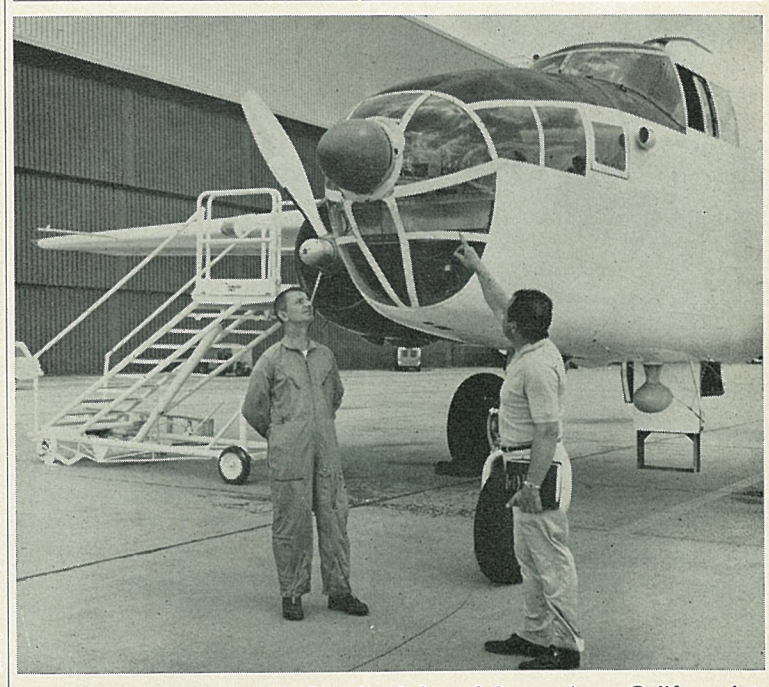
Following review and study, the ES was placed into effect during 1960, and in 12 months saved an estimated $16,832 in labor and $27,379 in material costs.

Both Kime and DeBolt have previously participated in the ES program. In 1956, while at Convair, Kime simultaneously received award payments for nine suggestions!

Uniquely, another noteworthy Employee Suggestion concerned "Omega joints." In 1958, G. E. Helminski earned the largest ES award paid by GD/Astro to that time ($1,612) by proposing use of metal covers to protect the joints during assembly.



THINKERS—V. K. DeBolt and W. V. Kime display assembly using Omega joints welded by method they proposed. Employee Suggestion on which they collaborated saved GD/Astro $44,221 and earned originators $2,211 each.



SEEING EYE—Lloyd J. Bissell, right, of Santa Ana, Calif., points out features of new GD/Electronics terrain avoidance radar system in nose section of B-25 bomber to Dick Johnson, GD/FW manager of flight, one of several who took demonstration hop at Fort Worth last month. B-25 went on to Eglin AFB for further demonstrations.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

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AND A GOOD TIME WAS HAD—GD/Convair Management Club went all out to see that there was fun for everyone, especially children, at its annual family picnic June 9. Several hundred were on hand at CRA Pecan Park to join in pie eating, pop drinking, nail hammering, balloon blowing contests, few of many held during day. Hay hunt for prizes was highlight for younger set. Vaudeville show with professional entertainers climaxed day. Factory departments sponsored affair.

Dice Symbol Selected For Little Joe Project

"Come on, Little Joe!" will be as popular a call at General Dynamics/Convair as it is around Las Vegas dice tables as action begins to roll on the division's latest project.

That is the opinion of J. B. Hurt, program manager of Little Joe II, launch vehicle under design at GD/Convair for National Aeronautics and Space Administration. Hurt has chosen the four-point dice symbol as emblem for the division's portion of the program.

Now, all connected with Little Joe II at the San Diego plant sport a special insigne on their badges identifying them as Little Joe "rollers."

"We look on the Little Joe dice symbol as a lucky omen," said Hurt. "And, we're sure that it is from the standpoint that this project represents an upswing in more business for GD/Convair.

"However, we are not gambling with this program!

"Hard work and a lot of dedicated people will insure its success."

Deputy program managers assisting Hurt in direction of Little Joe II operations are: C. R. Tuttle, engineering; N. L. Keough, manufacturing; H. K. Cheney, launch operations.

Reporting to Tuttle are J. E. Burgeson, vehicle structural design; R. E. Malm, vehicle control and instrumentation; J. K. Lessig, GSE planning and design; N. L. Wener, technical support.

Under Keough are C. S. Strand, fabrication and assembly; O. L. Hunley, tooling; A. R. Brunner, material operations.

Reporting to Cheney are M. I. Edelstein, launch planning and evaluation; A. W. Kellogg, launch test coordination; A. C. Oehler, launch operations support.

Assisting Hurt in a staff capacity are W. L. Johnston, reliability control and quality assurance; D. G. Moody, system integration, change control, plans control; H. G. Schuette, NASA San Diego office liaison; W. F. Brown, documentation control; B. E. Cavin, program control; N. Grand, procurement, subcontract cost control.

Under the contract, GD/Convair will design and manufacture five launch vehicles, launcher, and necessary ground support equipment. The launch vehicle is destined to be used in test flights of an Apollo spacecraft before a manned vehicle is sent into orbit.

First long-lead material orders will be released the latter part of this month; tooling design and planning starts early in July.



LUCKY TAG—J. B. Hurt, program manager of Little Joe II at GD/Convair, hands secretary Reta Wilson badge with symbolic dice emblem now designating all working on project.

Ebel Awarded Top Canadian Science Honors

William K. Ebel, assistant to GD/Convair's president, last week received the McCurdy Award, regarded as the premier Canadian distinction in scientific and engineering fields of aeronautics and space.

The award was presented at the annual meeting of the Canadian Aeronautics and Space Institute, meeting in Montreal.

Ebel, engineering vice president of Canadair from 1949 to 1960, directed many major engineering projects for General Dynamics' Canadian subsidiary, including conversion of the F-86 to the Canadair Sabre and development of the swing-tail cargo transport, the CL-44.

Ebel came to Convair from the Washington Office in the spring of this year.

$4,350 Contributed To Local Charities

Five San Diego organizations received $3,350 last month from GD/Convair Employees' Con-Trib-Club and first June donation of $1,000 went to the local YMCA.

May contributions were $1,000 each for Children's Dental Health Association, Girl Scout Council, and Jewish Community Center. YMCA, Southwest Branch, received $250, and United Cerebral Palsy Foundation, $100.

Electronics Names Data Chief Engineer

Arch Wisdom, a former program director at General Dynamics/Electronics at San Diego, has been promoted to chief engineer of the division's data processing product group, William Lawrence, general manager, announced.

In his new position, Wisdom is director of design and development of high speed electronic printers, microfilm recorders, digital display units, and character-generating cathode ray tubes.

He joined the former Information Technology group of GD/Electronics in 1959 and has been in charge of Strategic Air Command Control System and Project Mercury Control Center programs at GD/E.

New Blood Plan Put in Effect

All donors who give a pint of blood at the coming GD/Convair bloodmobile next week (June 28) will find themselves automatically enrolled in a new blood credit plan.

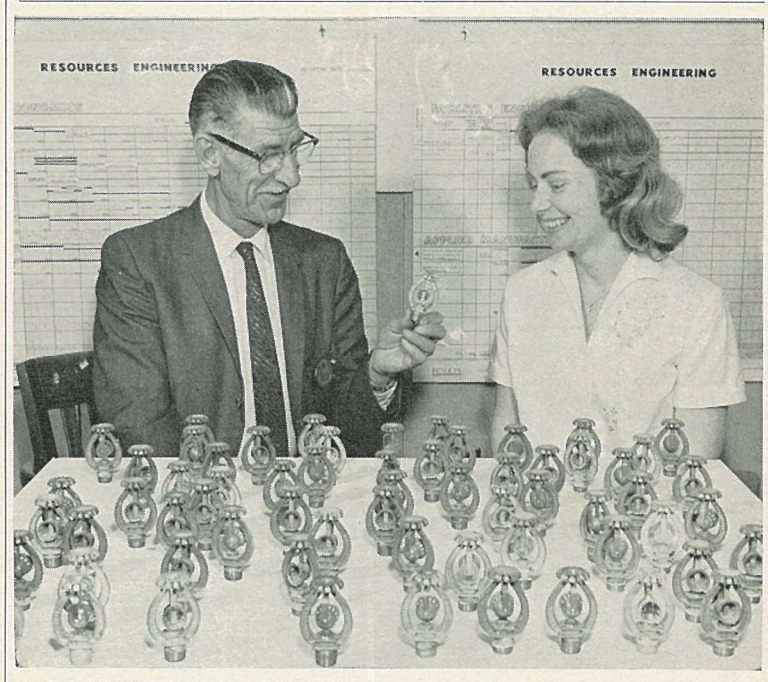
By giving one pint of blood, each GD/Convair or GD/Electronics person will be registered with the San Diego Blood Bank under its new membership service. One pint will entitle each donor to any amount of blood needed, at no cost, over a period of two years for himself, or one year for his family.

This plan, just put into effect by the San Diego Blood Bank for all San Diego area people, will replace the blood credit program operated at GD/Convair for the benefit of employees during the last 10 years.

As soon as GD/Convair's credit in the blood bank is used—there were only 26 pints in its account as of last week—no more blood may be drawn by employees through GD/Convair.

All GD/Convair and GD/Electronics people are urged to take

(Continued on Page 2)



GOOD AS NEW—C. U. Giusti, senior plant engineer, shows Rae Bishop (Dept. 24) sprinkler head, one of 300 reclaimed by simple dipping process at cost of two cents apiece.

GD/Convair Plans Control Center To Keep Tabs on Cost Efforts

A pilot cost reduction program formulated within General Dynamics/Convair's industrial engineering department and supported by all plant functions has proved so successful that it will be extended throughout the division.

"Brain" of the system, called Resources Economics, is a control center set up to maintain all reports and records accumulating on projects directed toward cutting expenses within the plant.

"This method of keeping pace with progress of cost-cutting drives assures close scrutiny of all projects, eliminating duplication of effort, and maintaining one source of accurate information," emphasized R. M. Hatcher, director of industrial engineering.

(Continued on Page 2)

Log Book Entries



GD/Convair men who completed 25 years of service early this month are from left, F. J. Johnson, Dept. 171, Steve Kecskes Jr., Dept. 31, and Carlo Costantino, Dept. 223.

Service Emblems

CONVAIR

Service emblems due during the period June 16 through June 30.

Twenty-five-year: Dept. 15-0, J. E. Gott.

Twenty-year: Dept. 2-0, Doris E. Taylor; Dept. 6, V. E. Korski, R. W. Miller; Dept. 14-3, Lily H. Kramer; Dept. 20-1, N. W. Von Pinnon; Dept. 34-2, M. M. Kidder; Dept. 48, B. R. Haile, W. B. Harwell, F. H. McAfee; Dept. 146, D. W. Ingram; Dept. 160, P. F. Termini.

Fifteen-year: Dept. 16-0, W. W. Lynt; Dept. 34-2, G. A. Axt; Dept. 45-0, R. F. Lunetta; Dept. 101, W. C. Walker; Dept. 115, H. E. Jones Jr.; Dept. 140, Marian S. Gianformaggio; Dept. 160, C. W. Johnson; Dept. 216, Rosalie L. Dawson, Eula W. Mason; Dept. 218, T. A. Cooksey; Dept. 401-7, Mike Korandovitch, Caroline B. Shryock.

Ten-year: Dept. 6, Carl Coverston, G. T. Draper, J. W. Dugan, D. A. Fletcher, J. E. Gillette, J. M. Nelson, C. P. Pederson, J. F. Snyder Jr.; Dept. 14, Ruben Mendoza, S. J. Rollason; Dept. 15-0, W. T. Elliot; Dept. 16-1, Lelah P. Rudis; Dept. 22-0, J. M. Cooper; Dept. 25, Joe Dambrose, Zacarias Toribio, J. G. Walker; Dept. 27-6, Lela G. Fitch, Phyllis F. Scott; Dept. 29-4, J. F. Kelley; Dept. 34-2, G. H. Nebeker; Dept. 44-6, Mabel J. McFarland; Dept. 48-11, N. J. DiLeo.

Dept. 91-0, Alice H. Myers; Dept. 101, Ruth V. Cravo; Dept. 115, Hilda G. Escamilla; Dept. 128, R. V. Lucero; Dept. 180, R. K. Hamilton; Dept. 192-1, R. D. Murphy; Dept. 201, C. R. Erickson; Dept. 204, Josie M. Mitchell; Dept. 206, Lucille W. Laderoot, D. L. Rennie; Dept. 215, R. J. Roberts, Henrietta B. Sory; Dept. 216, Zacheriah Tyler; Dept. 400-6, F. D. Aiken, J. E. DeWall; Dept. 401, J. E. Goff, B. K. Haugland, W. E. Perkins.

ELECTRONICS

Fifteen-year: Dept. 3-5250, Ellen S. Shirley.

Ten-year: Dept. 8-5123, L. D. Davis.

Rider-Driver

CONVAIR

RIDE WANTED — 8 a.m.-4:30 p.m. from 4417 Clairemont Drive to Plant 1. Linda Brooks, home phone 274-5065, or plant ext. 2441.

Retirements

CONVAIR

BOXLEY—Ralph L., Dept. 31. Seniority date Aug. 30, 1940, retirement effective May 31, 1962.

CHAMBERS — Alvin G., Dept. 136. Seniority date June 18, 1947, retirement effective Feb. 16, 1962.

DU BARRY—Marie, Dept. 16-8. Seniority date March 15, 1954, retirement effective May 31, 1962.

LEIPERT—Tonie, Dept. 14-4. Seniority date May 15, 1951, retirement effective May 31, 1962.

NEGRETTE — John S., Dept. 25-6. Seniority date Oct. 7, 1948, retirement effective May 31, 1962.

REED—Ina May, Dept. 14-4. Seniority date Jan. 17, 1952, retirement effective May 31, 1962.

SANDERS—Ralph L., Dept. 218. Seniority date Aug. 20, 1947, retirement effective May 31, 1962.

SCHMITT—Melvin F., Dept. 14-4. Seniority date April 13, 1951, retirement effective May 31, 1962.

SNELLINGS—Thelma L., Dept. 48. Seniority date March 13, 1952, retirement effective June 5, 1962.

Promotions

CONVAIR

Promotions to or within supervision effective June 4.

Dept. 14-4, Manufacturing Control: To shipping asst. foreman, P. G. Bieberdorf.

Dept. 35-0, Subcontract Administration: To material price analysis supervisor, G. C. DeMos.

GD/ADVANCED PRODUCTS

Dept. 986-1: To regional sales manager, T. J. Critton.

GD/ELECTRONICS

Dept. 3, Reliability & Quality Control: To asst. group engineer, C. G. Franklin.

Dept. 5, Engineering: To technical publications supervisor, H. F. Jackson.

Personals

SAN DIEGO

Our heartfelt gratitude to Convair and Astro friends for the many kindnesses shown us during my hospitalization and convalescence. We deeply appreciate the blood donations, prayers, flowers, and personal visits. Special thanks to Tooling personnel for their concern and assistance.

V. P. Mavrinac & Family, Dept. 401-7.

New Blood Plan Put in Effect

(Continued from Page 1)

advantage of the new plan, said J. K. Field, chief of GD/Convair employee services.

"This membership plan offers greater protection than any that can be sponsored by individual companies," he stressed.

Those who join the Blood Service Plan have two choices. They can donate one pint of blood or pay an annual membership fee.

One pint takes care of all needs of a family for a year, or the individual for two years, without cost.

Family membership for one year is $4; individual membership fee, $2.

Family membership will cover wife and husband and all dependent children under 19. Newborn babies are automatically included.

A 90-day waiting period, except in case of accidental injury, is required after donation of blood or payment of membership fees.

If blood transfusions are needed anywhere in the United States, the San Diego Blood Bank will replace the blood, unit for unit.

No charge is made for blood used within San Diego County, however a service charge is necessary elsewhere. Blood does not have to be replaced and there is no limit to number of transfusions.

GD/Convair and GD/Electronics people may apply at employee services, Bldg. 32, Plant 1, for membership, said Ken Wulfemeyer.

They may sign application forms and pay membership fees there, or, if they wish to donate blood, they can make arrangements directly with the San Diego Blood Bank at 3405 Fourth Ave.

Cards are now in the hands of all supervision throughout the GD/Convair and GD/Electronics facilities for signing for the June 28 collection.



FROSTED ASSEMBLY—Bettie Lundy, GD/Electronics assembler, with cake she decorated to resemble electronic assembly for final test day in GD/E soldering school at San Diego.

CAKE LISTS DON'TS FOR SOLDER CLASS

Gremlins that can foul an electronic assembly landed on a colorful cake to mark "graduation" day of the 15th General Dynamics/Electronics soldering school class.

Bettie Lundy, one of the students, baked and decorated the frosted confection with the "don'ts" learned during the 40-hour course. Such items as "holes in solder," "too much solder," "bad bends" reminded the class of practices which ruin a delicate assembly.

At least 150 GD/Electronics assemblers have been receiving intensive training in the current soldering program.

Reed Appointed Mfg. Director

W. D. Reed assumes a newly-created post as director of manufacturing at General Dynamics/Convair, effective this week, J. H. Famme, GD/Convair president, announced.

Reed had been acting as assistant to the vice president and general manager, maintaining close surveillance over manufacturing activities. In his new director's position he will have direct responsibility for tooling, factory, experimental and development.

Joining GD/Convair first in 1941, Reed has served as assistant factory manager and manager of subcontract production.

Apprentices Honored at Dinner On Eve of Their Graduation

Thirteen apprentices, graduating this year from General Dynamics / Convair's continuing program, were among more than 250 honored at the 21st annual Apprenticeship Completion Ceremony marking culmination of their training.

The dinner and ceremony was Thursday evening (June 7) at 7 p.m. in the International Room, El Cortez Hotel.

As usual, the affair was under joint sponsorship of the San Diego General Apprenticeship Committee and the 27 individual trade committees assisted by the California Division of Apprenticeship Standards, San Diego City schools, and Federal Bureau of Apprenticeship and Training.

The student body of San Diego City College, where the apprentices completed their related technical training, were hosts to the new journeymen. Main speaker was B. F. Coggan. Dinner was followed by a dance.

GD/Convair apprentices, who will have completed their four-year training with the division by August of this year, are:

Thomas G. Binder, plaster patternmaker; Robert L. Fagan, electronic technician; George D. Helms, airframe and powerplant mechanic; Gilbert J. Mendoza, plaster patternmaker; Bill E. Moilanen, electronic technician; Raymond N. Parra, airframe and powerplant mechanic; Charles L. Poat, electronic technician; Donald K. Score, industrial electrician; Robert W. Sherman, airframe and powerplant mechanic; Richard F. Stull Jr., electronic technician; James E. Terry, industrial electrician; Matthew A. Unwin, tool and die maker and jig builder; Robert L. McHenry, aircraft electrician.

The GD/Convair apprenticeship program is administered under educational services, H. W. Rubottom, chief. Rubottom is also a commissioner on the California Apprenticeship Council.

Coordinating the division's program is L. W. Turner.

RIDERS TO GATHER AT SANTEE RANCH

CRA Riding Club members will gather this Saturday (June 23) at the Santee ranch of Lou and Bruce White for an all-day fun session.

A trail ride, wiener roast, and swimming in the family pool will keep everyone busy throughout the day .

The club's Color Guard garnered another trophy for its appearance in the annual Pacific Beach parade on May 27 and rode last weekend at the Camp Pendleton Rodeo.

Tentative plans now are being made for a weekend trip to Los Caballos and a picnic and trail ride at CRA Pecan Park, said V. V. Thomason, club president.

Atomic Enters Water Research

General Atomic Division has been awarded a $150,000 research contract by the Office of Saline Water to study a process which could lead to a simple and economical means of saline water conversion, Secretary of the Interior Stewart L. Udall announced last month.

The process, known as reverse osmosis, utilizes a combination of membranes and pressure. It has the potential advantage of requiring less energy than other methods of sea or brackish water conversion. The reverse osmosis process also offers the possibility of recovering water suitable for industrial uses from sewage effluent.

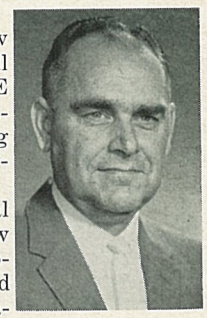
"Even though a great deal of difficult research and development work must be successfully completed before this process will be ready for commercial application," Secretary Udall said, "we are intrigued by its exciting possibilities.

"A major effort will be made by the Department of the Interior to develop this process as soon as possible," he added.

Wood Appointed Material Mgr. At Electronics

L. A. Wood has been appointed manager of material for General Dynamics/Electronics at San Diego, William Lawrence, general manager, announced last week.

Wood transfers to the GD/Electronics post from GD/Convair, where he had been project manager for transfer tasks since fall of 1961.



L. A. Wood

In his new position he will head the GD/E material department, reporting directly to Lawrence.

The material department now consolidates procurement and control of materials. The department consists of two sections —purchasing and material control. Material control encompasses functions of inventory control, stockrooms, shipping and receiving at Plant 1.

Reporting to Wood is C. L. Kimball, manager of purchasing for GD/E, and supervisors of inventory control, stockrooms, and shipping and receiving.

Functions of scheduling, order and release, and dispatching at Plant 1 will be under H. O. Patchel, GD/E manager of production control, who reports to J. H. Thompson, manager of operations, Plant 1.

Material control functions at GD/Electronics Plant 2, Hancock St. facility, are not included in the current organization, said Lawrence.

Wood, who joined GD/Convair in 1943 in flight and service, has held responsible positions in material, subcontracts, and purchasing departments. He was chief of subcontracting in 1959, named general purchasing agent for the division the following year, and was procurement manager before his assignment as project manager.

GD/Convair to Form Cost Cut Monitor

(Continued from Page 1)

Present indications point to a similar method of reporting control for the entire division. Under current planning each department will develop its own cost-saving projects. Department heads will submit up-to-date status of all cost reduction activities within their jurisdiction once a month.

Progress and savings achieved will be consolidated in an overall report distributed monthly to division and corporate officials.

Constant surveillance will be maintained over all projects and attention focused on areas where the greatest amount could be saved.

Since the first of the year, industrial engineering's reporting center, manned by John Wazny, shows 77 projects begun and 37 completed. Nearly $300,000 has been saved at a cost of $10,500.

"This cost reduction program, although originated within industrial engineering, has proved its value only because it has been backed to the hilt by our factory operations and supporting departments," Hatcher stressed.

"Such leaders as F. H. McLaughlin, Steve Barinka, Nick Keough, Frank Blair, have spurred their functions to the utmost in this drive to reduce expenses.

"Any program is only as successful as the whole-hearted support of everyone in the division makes it."

As an example of cost saving ideas everywhere, a recent suggestion by C. U. Giusti, senior plant engineer, saved more than $600. Instead of discarding 300 sprinkler heads removed from a plant area during remodeling, he showed that they could be easily cleaned for reuse by simply dipping them in a solution. Cost of time prorated out to a couple of cents apiece. New, each would cost at least $2.

General Dynamics NEWS

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GD/Electronics (San Diego) news contact: Betty Freeby, CY-8-4641, ext. 1377, Plant 1, Bldg. 51.

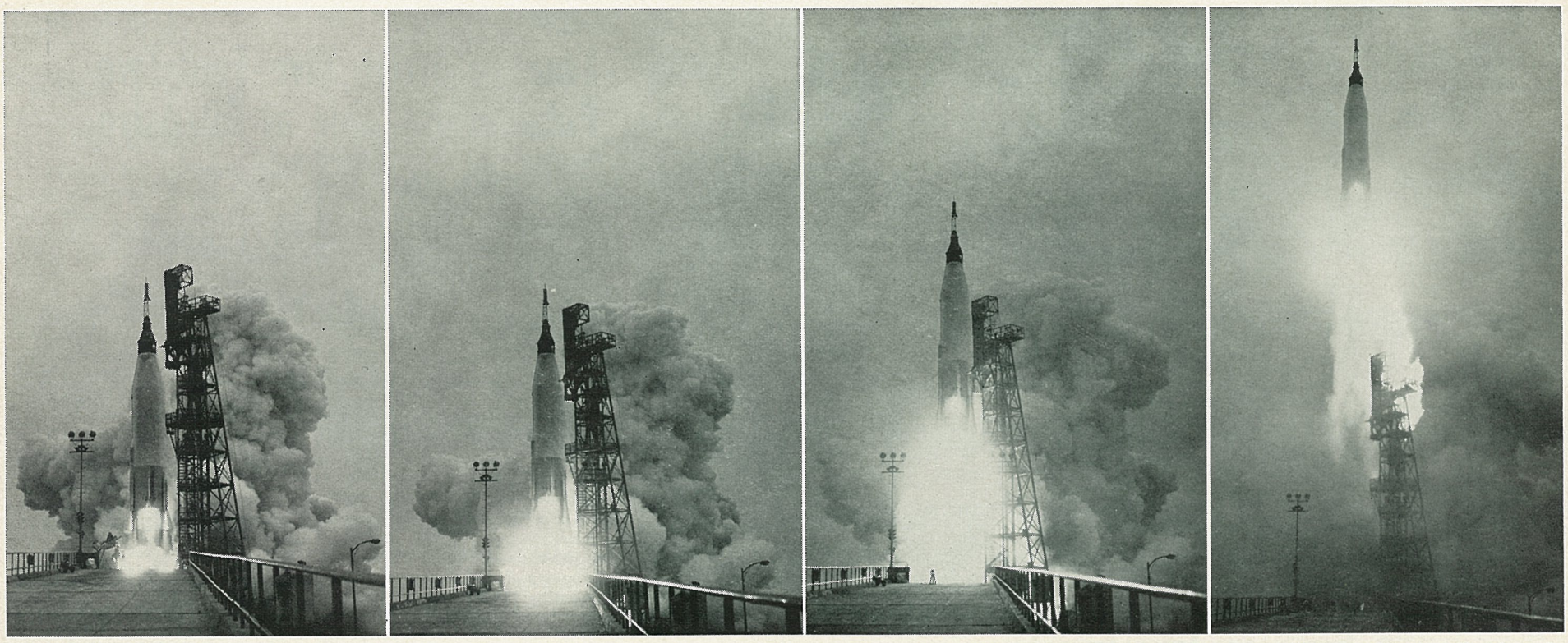
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Total circulation of all General Dynamics NEWS editions, nearly 90,000.



TARGET: SPACE—Dramatic series of photographs made by automatic range cameras shows launch of Mercury-Atlas which lifted Astronaut M. Scott Carpenter into earth orbit. Astro team of Test Conductor Calvin W. Fowler, two assistant test conductors, about 15 engineers, 40 technicians and 10 inspectors handled launch. Entire mission force numbered about 2,500 men including Atlantic Missile Range, tracking station, NASA, Air Force, Navy and Marine personnel.

First Production Part On C-141 Job Machined

First production part for the C-141 empennage was machined early this month at General Dynamics/Convair as preliminary work stretching over the last few months began to take concrete form.

The first part, a vertical stabilizer rib, was cut on an automatic Giddings & Lewis skin mill at GD/Convair Plant 2 after tapes were proofed out in styrofoam and then in proofing material.

Each of the 15 different ribs in the vertical stabilizer and the 18 in the horizontal stabilizer will go through the same process, explained G. E. Nuss, tool engineering general supervisor.

All of the ribs, cut by automatic numerical control methods, will be one piece. If made by conventional means, 10 pieces would be necessary for each assembly. Thus, instead of approximately 330 different parts in each empennage, there will be 33.

The numerical control tape method of machining has resulted in an important weight saving in manufacture of parts for the C-141 tail, being done at GD/Convair under a subcontract for Lockheed-Georgia Co., prime contractors on the AF cargo plane, said J. M. Adamson, C-141 project manager.

After programmers have produced the tapes for each part, a styrofoam part is machined as first test step. This can show, often within 30 thousandths of an inch, if the tape will produce an acceptable part, explained Harry Cooper, tool engineer in charge of numerical control section.

Next, the tape is used to cut a part of proofing metal, cheaper type of aluminum alloy than actual production material. Incidentally, an inspection report showed that the first vertical stabilizer proof part was acceptable after the first test run.

Finally, an actual part from production material is machined.

Second part to be cut from production material, a horizontal stabilizer rib, is due to go on the automatic milling machine some time this week. Tape has already been proofed out with styrofoam and proofing material.

Tapes for each of the various ribs will be checked out over the next few months with setups maintained on the machines at Plant 2 so that production parts can be run concurrently.

★ ★ ★

C-141 Project Folk Briefed on PRESTO

A series of briefings on PRESTO reporting system at GD/Convair began yesterday (June 19) for people connected with the C-141 project, under auspices of educational services.

The 1½-hr. lectures explain the GD/Convair-developed Project Release Status Operation, used as a complement to PERT (Program Evaluation Review Technique) in reviewing progress of a program during development stages.

W. F. Weidenfeller of educational services is conducting the current training which ends June 29. Supervisors who wish to enter personnel are asked to contact him at ext. 491, Plant 1.

GD/Astro Car Carries License 'JET 990'

Larry Janson of General Dynamics/Astronautics (Dept. 535-7) is one of the lucky ones—he takes a JET 990 to and from work!

But he travels just like all of us—on the ground. Janson's California license plates are JET 990. He's had them for almost two years.

28 From GD/FW Earn Masters

Twenty-eight GD/Fort Worth employees were awarded advanced degrees May 28 under the SMU Graduate Program.

Receiving master's degrees in engineering were: J. E. Aaron and R. D. Stanford, Dept. 6, (civil); W. F. Ekern, Dept. 6, (aeronautical); and S. V. Glorioso, G. M. Goodwin, M. J. Tilly and J. J. Walker, Dept. 6, (nuclear).

Master's degree in engineering administration: D. C. Hamilton, C. A. Hardy, P. Shannon, L. E. Wilson and O. W. Wood, Dept. 6; J. F. Holder, Dept. 22; and H. D. Olsen, Dept. 86.

Master's degree in aeronautical engineering: J. H. Brown, E. F. Cox, and D. C. Wade, all of Dept. 6.

Master's degree in civil engineering: C. E. Archer, Q. R. Owen, G. A. Rose, R. J. Schmigle, and R. J. Wren, all Dept. 6.

Master's degree in electrical engineering: J. P. Sutton, Dept. 6.

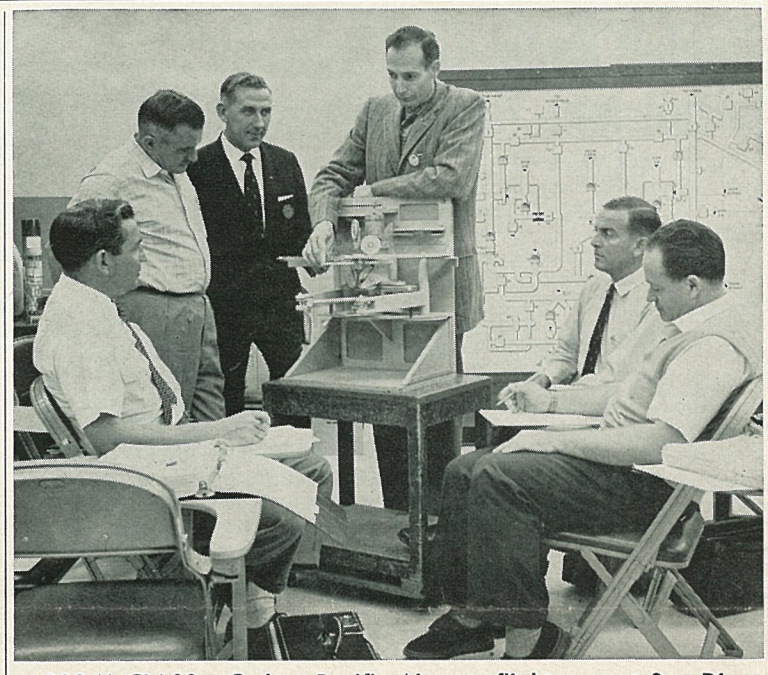
Master's degree in mechanical engineering: J. H. Brown, E. F. Love, W. B. Manousos, and T. E. Phillips, Dept. 6 and N. C. Stranberg, Dept. 12.

Minnesota U. Youth Wins Convair Award

Roxie E. Aho of Esko, Minn., won the annual GD/Convair Cadet Award at ceremonies held last month at the University of Minnesota Duluth.

C. H. Marier, GD/Convair technical representative based with the 11th Fighter-Interceptor Squadron, Duluth Air Base, presented the award to Aho for "maintaining a positive attitude toward scholastic work and service to the Air Force."

Officials of Duluth Air Base participated in the annual Provost Day parade and review of UMD's 420th AFROTC Group.



880-M CLASS—Cathay Pacific Airways flight men at San Diego for ground school training are, from left, M. J. McCausland, H. L. Fells, G. D. A. Rignall, Roger Chaney, GD/Convair instructor, L. J. Kloster, C. E. Eather, centering attention on model of aileron spoiler mixer assembly for control system.

Flight Crewmen From Cathay Pacific Taking Course in 880-M at San Diego

Five Cathay Pacific Airways Limited flight men arrived in San Diego early this month for a five-week ground school course on Convair's 880-M.

Instructors in General Dynamics/Convair production flight are giving a thorough familiarization on the Convair jet airliner now flying on the Hong Kong airline's routes.

First ground school for Cathay Pacific was held early this year for 18 crewmen before Cathay Pacific's 880-M went into service in mid-April.

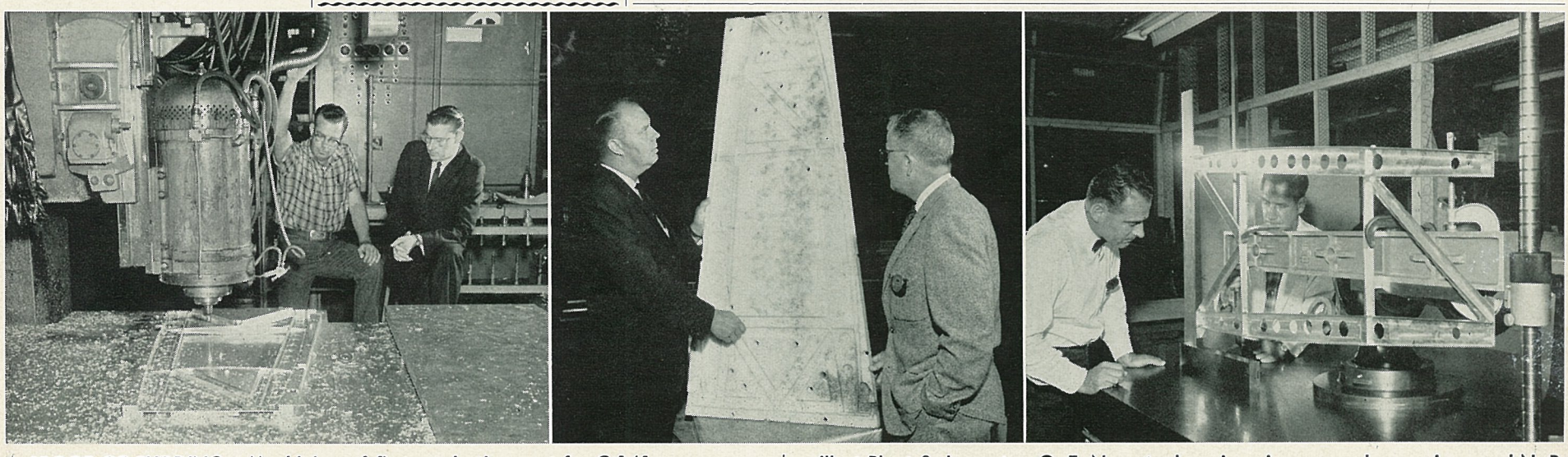
Taking the current training are G. D. A. Rignall, L. J. Kloster, C. E. Eather, captains; M. J. McCausland, first officer; and H. L. Fells, flight engineer.

Areas covered are general familiarization, emergency equipment, flight controls with J. B. Van Houten, instructor; power plant, fuel system, fire detection and extinguishing, hydraulic, air conditioning, pressurization, adverse weather, Roger Chaney; electrical and KIFIS system, R. E. Nixon; electronics, instruments, and auto pilot, H. L. Hendricks; performance and operating techniques, A. P. Wilson.

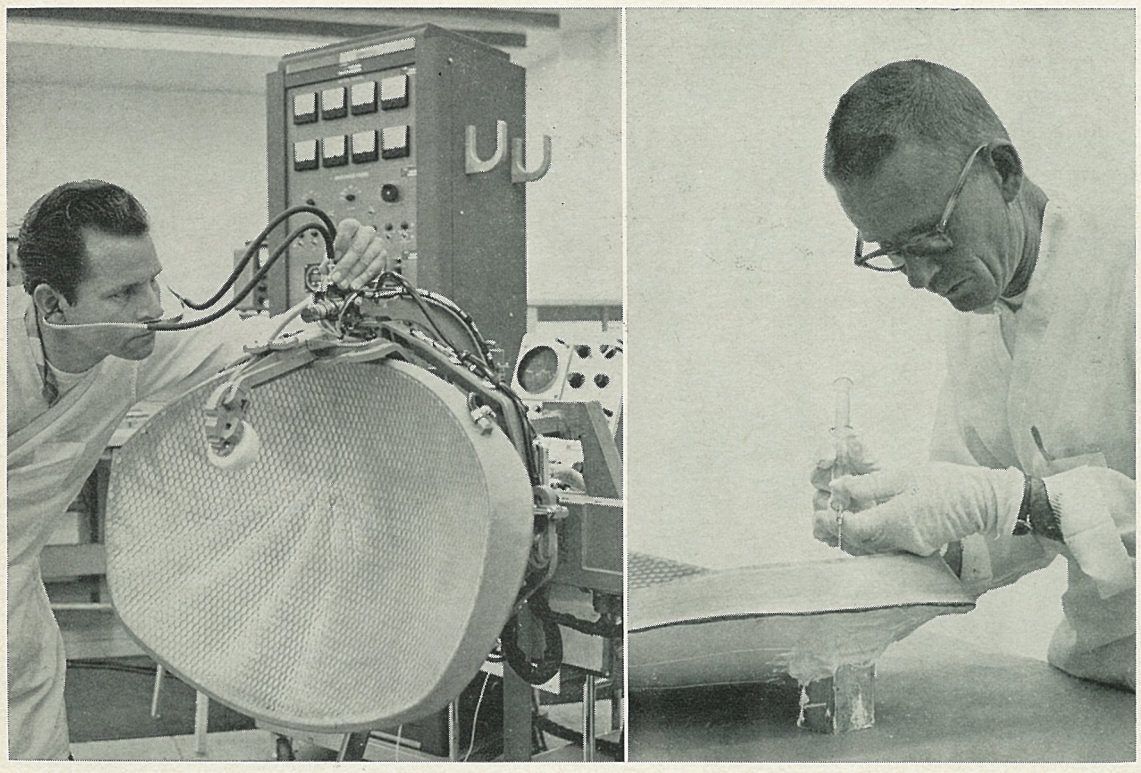
Two at GD/FW Named To Office in SAE

Two GD/Fort Worth employees have been named to top posts in the Texas Section, Society of Automotive Engineers.

Lloyd Halpenny, Dept. 89-0, is vice chairman of the section, and Dave Norton, Dept. 8, is vice chairman of the aerospace group.



PROOF OF PUDDING—Machining of first production part for C-141 empennage was milestone at GD/Convair early this month. At left, R. L. Patrick, machine operator, and Harry Cooper, tool engineer responsible for numerical control activities on project, check first machined rib on bed of automatic Giddings and Lewis skin mill at Plant 2. In center, G. E. Nuss, tool engineering general supervisor, and N. P. Pearson, C-141 superintendent, examine styrofoam pattern used to check out first tape. At far right, B. A. Buffat, Plant 2 inspection supervisor and James Corbett check first metal proof part on angle computer for dimensional accuracies.



STEADY, DOCTOR—Borrowing tools from medical profession, Chuck Clagett, left, GD/Electronics technician in servo test at San Diego, uses stethoscope to catch "heart beat" of component; while at right Ray Richmond, GD/E plastic fabrication technician, puts into effect bright idea of eliminating air pockets with shot of resin.

Scalpel! Hypo! GD/Electronics Technicians Use Medical Aids

White-robed "doctors" in General Dynamics/Electronics test areas at San Diego are using familiar medical aids as they diagnose assembly ailments and inject vital fluids into delicate instruments.

Stethoscopes and hypodermic needles, usually associated with a physician's office, are seen in the hands of electronic assembly technicians as they go about their business of isolating strange noises on the one hand, and filling in tiny air leaks, on the other.

The instruments landed in GD/Electronics assembly test sections more by accident than design, said John Wahl, supervisor of systems test. A GD/E technician stumbled on the idea of a stethoscope for isolation of sounds as he thumbed through a surplus catalogue looking for playthings for his young son.

Once tried, it proved a valuable assist in detecting such trouble areas as faulty gears, noisy bearings in actuators and motors before components were incorporated in electronic assembly systems.

Wahl explained that amplifying qualities of a stethoscope help detect foreign material or moisture which cause arcing in wave guides.

Also, a stethoscope can quickly pinpoint air leaks around the edge of plastic reflectors, determining whether the leak is internal or external around the inlet vacuum ports. If external, repair can be made without complete disassembly, saving as much as 10 or 15 manhours, Wahl estimated.

Hypodermic needles serve their purpose in plastic fabrication as they are used to squirt resin into tiny holes along the edge of the plastic "dishes" to fill in air pockets.

GD/FW MAKES TWO GRADUATE AWARDS

Four GD/Fort Worth Graduate Awards of $1,000 each were recently awarded to two employees and two college students.

Employees receiving the annual award were George H. Brigman, senior physicist in applied research group of engineering, and Charles Tabor, aerosystems engineer.

Brigman, who holds a PhD degree in physics from the University of Texas, will take post-PhD studies in nuclear physics, general relativity and related topics at Princeton University. Tabor will work toward a PhD degree in math at Texas Christian University.

Non-employee winners of the award were:

Grady W. Paxton, student at the University of Oklahoma, who will work toward a PhD degree in physics at the same school, and Samuel N. Rea, who will work toward a PhD degree in mechanical engineering from Southern Methodist University. Rea, who holds a master's degree in mechanical engineering from SMU, is a previous Graduate Award winner.



"They're *lovely* . . . Your wife make them for you?"

JAL Flight Crews Will Take Training Course at Convair

Over 40 Japan Air Lines pilots and flight engineers will be brought to the United States this summer for special flight training under auspices of JAL at the GD/Convair plant.

First group of four pilots arrived at the San Diego facility the first week in June for their checkout in JAL's 880-Ms. Groups will be coming in every couple of weeks from now until the middle of September on a rotation basis, explained S. Mitsuoka, JAL resident representative at GD/Convair.

Two GD/Convair instructor pilots, L. C. Brandvig and D. M. Dunafon, will assist in actual flight training.

Present schedule calls for JAL crews to spend from 20 to 25 hours in the plane with three flights a day, if possible.

Last of JAL's 880-Ms were readied for delivery this month. One will probably be flown to Tokyo to join the three already in service while the other will be kept at San Diego for the training program.

Sciences Institute Hears Fatigue Talk

C. R. Smith of General Dynamics/Convair fatigue laboratory spoke late last month at a technical meeting of the Institute of Aerospace Sciences at the University of Wichita, Kan.

His subject was "Influence of Residual Stresses and Fatigue Factors on Aircraft Structures."

He will be attending the American Society Testing Materials meeting in New York June 25-28.

Dynamics Plants To Close July 4

General Dynamics people will enjoy a one-day holiday on the Fourth of July.

All plants will suspend work for that Wednesday, except for essential maintenance and industrial security functions. Work will be resumed at regular shift hours on Thursday (July 5).

Next issue of the **General Dynamics NEWS**, which ordinarily would be released that Wednesday, will be distributed the following day.

I. B. Hale in Europe For Firearm Talk

I. B. Hale, GD/FW manager of industrial security, will give a trick-shooting display and firearms safety talk at the Lions International Convention in Nice, France, June 21-23.

He warmed up for the international event with a shooting demonstration for members of American Society for Industrial Security June 14 in Schenectady, N. Y.

At Home on High

Trapeze Artist, Five-Foot-Two, Publications Aide at GD/Astro

She flies through the air—when she's not working as a publications aide in General Dynamics/Astronautics support documentation (Dept. 337-2) at San Diego.

Genger Koger is a five-foot-two Kentucky-born blonde, who, since she was in 7th grade, has been a practicing trapeze artist, first in school and later with Circus Hall of Fame, Sarasota, Fla. She still practices regularly on her own equipment in San Diego.

Besides aerial work, she has performed professionally with a water ski troupe, as a member of a synchronized swimming team in AAU competition, and on stage in ARA Astro Player's most recent production.

Genger's introduction to the performing arts came shortly after her family moved to Sarasota, Fla., winter quarters of Ringling Bros. Circus, when she was 5.

"The whole town is 'circus,'" Genger said. "Everybody in Sarasota is some kind of performer."

The local high school has a course in circus arts, and lists a "Sailor Circus" as an extra-curricular activity. A scout spotted Genger when she was 11. She joined the school troupe, and began appearing in weekend performances.

Starting as a "ground act" (adagio), she soon acquired a trainer and learned aerial acts, moving to heights up to 35 feet. During one summer she performed with Circus Hall of Fame, a circus-sponsored Sarasota institution, and later worked in Florida night clubs.

She has never used a net and has never fallen.

"Many professionals feel a net more dangerous than a straight fall," she explained. "When working high, we use 'spotters,' who run under you, collapse to the ground and break your fall in case of mishap.

"The first thing a trapeze artist learns is how to fall. Once a partner with whom I was working fell 18 feet and suffered only rope burns."

One stunt Genger has never mastered: swinging while hanging by her heels. "To hang, simply point your toes and hook your heels over the bar," she explained.

Other feats she lists as difficult include the "neck loop" stunt ("just put your head through a leather loop and hang there") and the "back balance with slide."

"In this one, you lie across the trapeze with the bar in the small of your back, then swing, and finally on the back swing slide down to wrap your ankles around the ropes and hang by them."

Out of the air and onto water, Genger also took up water skiing and for three years performed with a professional Sarasota troupe.

The swimming "bug" caught her when she moved to Minnesota where she was forced to limit trapeze work to occasional shows. Since coming to San Diego she has swum as a substitute performer at a local night club.

Maj. Gen. Davis Commands BSD

Major Gen. W. Austin Davis has been named commander of the Ballistic Systems Division, Air Force Systems Command.

Assuming his new command on July 1, Gen. Davis relieves Maj. Gen. T. P. Gerrity who has been nominated for a third star and reassigned.

Gen. Davis will be directly responsible for research, development, testing, procurement, production and site activation of present and future Air Force ballistic missiles, including the GD/Astronautics-produced Atlas.

Formerly commander of the AFSC's Aeronautical Systems Division, Gen. Davis has held such posts as director of procurement and production, AMC; director of procurement and production in the office of the Deputy Chief of Staff/Materiel, USAF; AFPR at Boeing; and chief of the aircraft and missiles section, AMC.

A native of Texas, Gen. Davis is a graduate of Texas Technological College; the Advanced Management Course, Harvard; and the Industrial College of the Armed Forces.

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A new rank and assignment is in the offing for the Air Force officer who has guided Atlas base activation activities over the past two years, Maj. Gen. T. P. Gerrity.

President Kennedy has nominated him for promotion to the temporary rank of lieutenant general. Promotion is subject to Senate confirmation.

Reassignment will find him taking over duties as Deputy Chief of Staff/Systems and Logistics in the Office of the Secretary of the Air Force, Washington, D. C.

Gen. Gerrity was appointed commander of the Air Materiel Command's Ballistic Missile Center on July 20, 1960—which on July 1, 1961, was reorganized as the Air Force Systems Command's Ballistic Systems Division in Los Angeles.



AIRBORNE—Diminutive Genger Koger, GD/Astro publications aide, has been doing aerial work professionally and "for fun" since she was 11. She also swims, water skis, and works with little theater group.

Thai Royalty Names 990 Jet 'Brave Queen'

Convair's 990 airliner, which propelled Thailand into the jet age, received royal treatment in dedication ceremonies at Don Muang Airport, Bangkok, last month.

More than a thousand invited guests were attendants for the King and Queen of Thailand, central figures at the May 18 occasion, according to a special supplement of the Bangkok World. They included members of the royal family, high Thai government officials, diplomatic corps, leading business and social leaders of both the Thai and foreign community.

Twin honor guards of uniformed air hostesses, stewards



BLESSED—Somdej Maha Virawongs, primate of all Buddhist priests in Thailand, blesses new Thai International 990 Coronado jetliner by annointing it with holy water during dedication ceremonies in Bangkok.

and flight crews of the Royal Thai Air Force, music by the Royal Thai AF band, and fireworks set the stage for the regal send-off of the Convair jetliner.

A panel of Buddhist priests headed by His Holiness the Lord Patriarch, Somdej Phra Sangkaraj, blessed the aircraft and crew.

At the "propitious moment," designated by the Lord Patriarch as 11:19 a.m., King Phymiphol pressed the button to set off an aerial fireworks display. A flyby and maneuvers by Thai AF jet fighter planes followed.

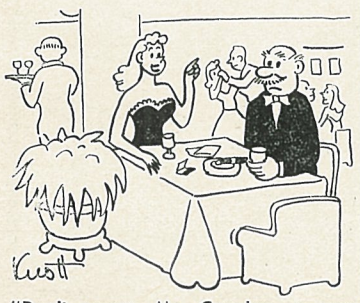
A golden name plaque, dubbing the 990 "Srisuriyothai" (brave queen), was placed beside the forward doorway by the King as a cluster of balloons released the veil over the name.

The plane was named after the courageous queen, wife of King Maha Chakraphat, who fought beside her husband against an invasion of Burmese in the late 1500s.

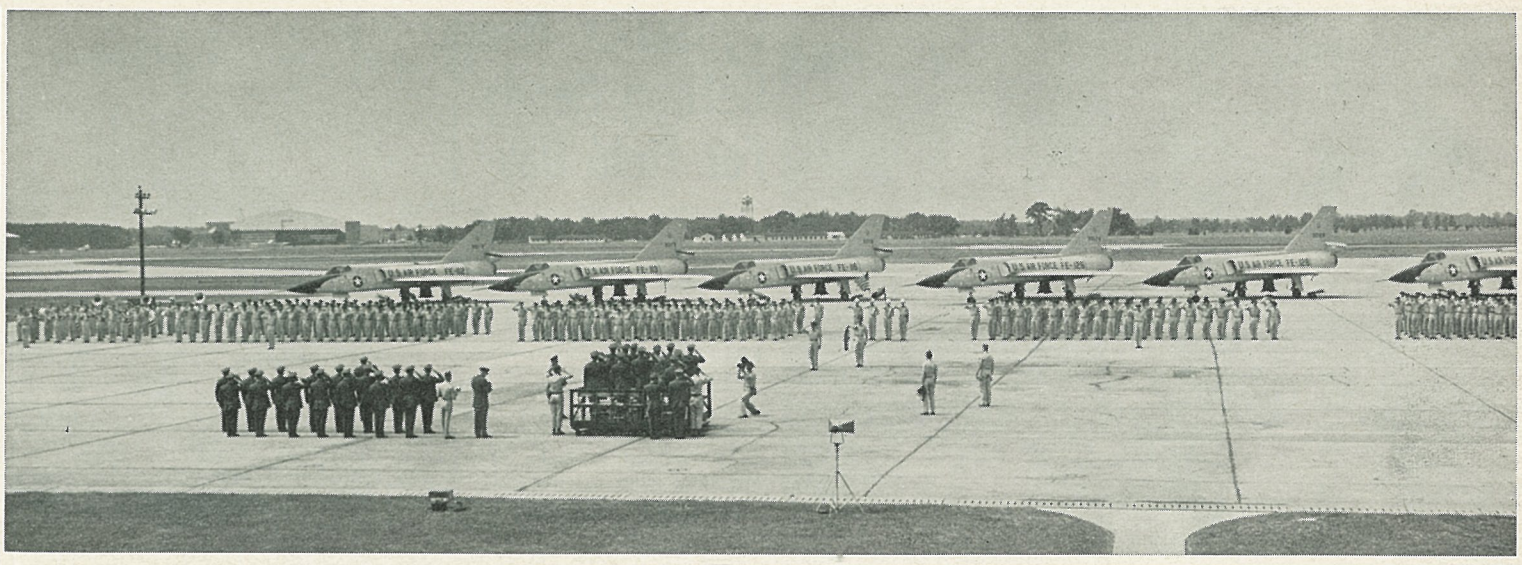
Shortly after noon the Thai International 990 took off on its inaugural flight for Hong Kong, Taipei, Tokyo with a group of newspaper, radio, and television reporters aboard.

Besides those Far East points, Thai International's 990 will connect Bangkok with Manila at Hong Kong.

Thai International's two 990s are operating in cooperation with Scandinavian Airline System.



"Don't worry, Mr. Crumley—a man with insurance policies like yours doesn't have to have sex appeal."



PRIZE LINE-UP—Convair F-106s in smart parade formation on runway at Langley AFB, Va., during recent presentation of coveted USAF Flying Safety award which went to 48th FIS second time in 18 months.

F-106 Squadron Earns Safest Record in AF

An F-106 squadron, the 48th Fighter-Interceptor Squadron, Langley AFB, Va., has won honors for having the best and longest flying safety record of all AF fighter squadrons.

Lt. Gen. Robert M. Lee, Commander, ADC, presented the award at ceremonies last month (May 23). At the same time, the squadron received a similar fighter squadron flying safety award from the South American country of Colombia, presented by the Colombian ambassador.

Other dignitaries invited to attend included Gen. Thomas D. White (USAF ret.), Gen. Henry Viccellio, Commander 26th Air Division, ADC, and Gen. James B. Tipton, commander Washington Air Defense Sector.

From January, 1958, through the end of 1961, the squadron flew 12,941 sorties for a total of 19,419 hours without an accident.

According to a report from L. M. Goodloe, General Dynamics/Convair field service representative with the 48th, over three-fourths of the time flown during that period was in Convair-built craft—F/TF-102As and F-106A/Bs. F-106s went to the squadron in mid-1960.

"The type of flying accomplished by pilots of this squadron is the most strenuous and exacting in the Air Force. Due to the importance of the squadron's mission (to achieve and maintain a level of operational effectiveness enabling the unit to intercept and destroy enemy airborne weapons), weather minimums are often nonexistent. Pilots are sometimes required to scramble on unidentified targets when base weather is below minimums with no suitable alternates.

"Members of the squadron are grateful for having aircraft which meet modern-day high performance requirements of current high-altitude, high-speed air defense missions, and, at the same time, demonstrate a high degree of airworthiness."

Perrin F-102s Top 2,000 Hrs.

Convair jet interceptors attached to Perrin AFB, Texas, have gone well over the 2,000-hour mark in one month of flying.

F/TF-102s logged within five minutes of 2,271 hours during May, probably the most time totaled for Convair F-102s in a single month, reports L. D. Harris, General Dynamics/Convair field service representative with the 3555th M&S Group at Perrin.

An average of 100 hours a day was flown during the 22 scheduled flying days with each mission averaging an hour and 10 minutes.

Command of Perrin AFB changed in late May from Col. William E. Buck Jr. to Col. Raymond K. Gallagher, deputy commander since last August. Colonel Buck has been reassigned to the 8th Tactical Fighter Wing, Japan.

Machine Installed at GD/Fort Worth Drafts, Lofts Engineering Drawings

GD/Fort Worth is pioneering in use of a machine that drafts and lofts engineering drawings with unprecedented speed and precision.

The machine is a numerically controlled drafting and line plotter, capable of executing intricate drawings as fast as 10 feet a minute. It is believed to be the first in industry.

Tape used to make engineering drawings can also be used as basic information for the magnetic tape used in making finished parts and tools.

In one study, GD/Fort Worth engineers pitted the manual method against the new machine method for producing contour drawings of an aircraft wing spar.

Result: a cost of $2,459 using the manual method, compared to a cost of $1,809 using the machine — a 35 per cent saving in manhours and a 26 per cent saving in cost.

Savings in this test would be conservative compared to those that can be made on some other type projects, according to A. Ocone, group engineer in basic lines who is in charge of engineering department work on the machine.

"This method of operation provides an exact approach to the vast number of design problems resulting from an ever-increasing demand for precision manufactured parts," said Ocone.

Working area of the drawing board is five feet by 12 feet. This enables engineers to make a full-scale drawing for many of its aircraft and missile parts.

The machine can produce mirror-image or reverse drawings, as well as isometric projections and enlarged or reduced drawings. Drawings can be made from pen, pencil, or stylus—on vellum, glass cloth, mylar or scribe-coated surface.

In producing the tape for an engineering drawing, basic dimensions and contours are prepared in a design layout. This information is translated via APT III—an industry-wide symbolic language for numerical control — onto tabulating cards. A magnetic tape is made from these cards.

A punched-paper tape is then produced for use in the control units of the Model 700 drafting machine. An operator can either punch a button and let the machine do all the work, or he can operate the machine manually.

"Since drawings are more precise than previously, greater reliability can now be built into parts and tools," Ocone said. "Pertinent data can also be produced for engineers to aid in predicting performance of the complete vehicle — aircraft or missile."

Another virtue of the machine, Ocone said, is that it enables drawings to be supplied immediately to quality control men who check parts against drawings for accuracy.

"The day has come," Ocone says, "when a designer can prepare certain specifications for electronic computer processing and the result is a complete dimensional analysis printed out, a tape to be used for automatically making the part, and a drawing for reference."

General idea for the numerically controlled drafting machine was envisioned early in 1960. Specifications were prepared by Ocone and J. C. Starnes, manufacturing research and development supervisor with consultation between engineering, manufacturing research and development, tooling, electrical maintenance and engineering computer lab. The project was then submitted to industry for bids by means of U.S. Air Force procurement procedures.

Contract was awarded to Ekstrom, Carlson and Co. of Rockford, Ill., and the machine was installed in the GD/Fort Worth plant this spring, where it was given a thorough wringing-out.

New Security Manuals Issued To Four Dynamics Divisions

New security manuals embodying the latest Department of Defense regulations are being distributed within four General Dynamics Corporation divisions.

The newly-compiled manuals outlining operating procedures for safeguarding classified information will replace former security manuals at GD divisions, Convair, Astronautics, Pomona, Fort Worth. All divisions will have the manuals within the near future. Distribution has been completed at GD/Astronautics and department heads at GD/Convair began receiving that division's version the first of this month.

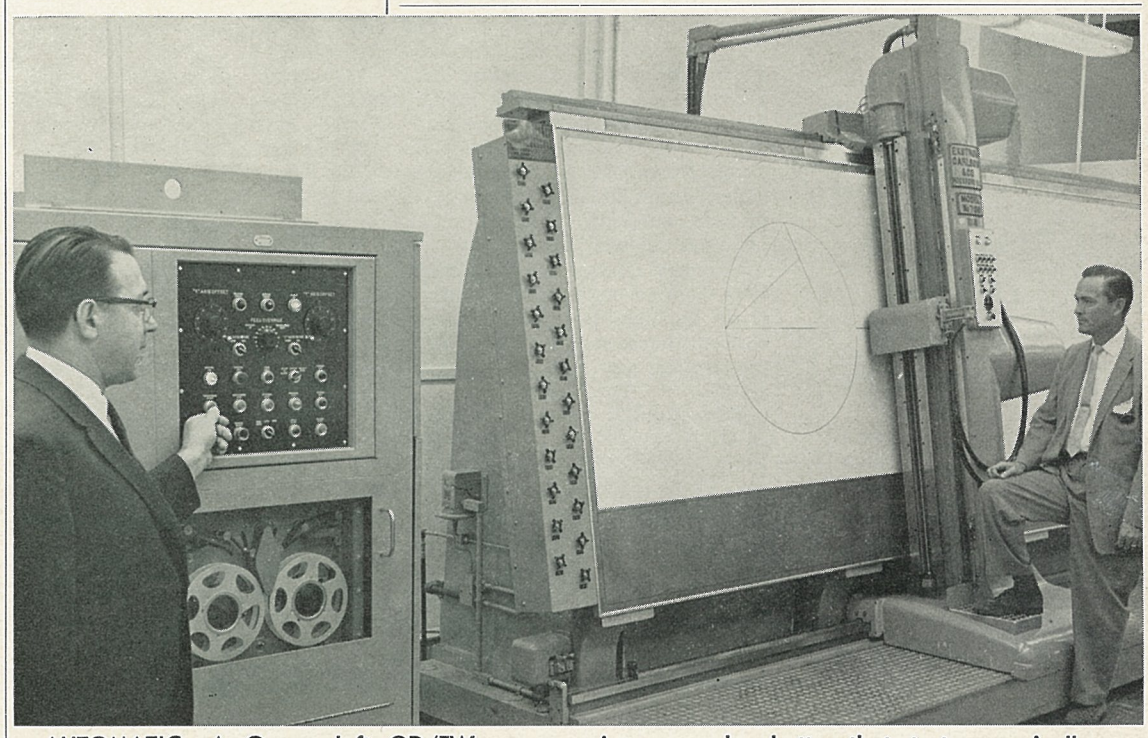
Basic content of the updated manuals was coordinated jointly with G. D. Higgins Jr., Corporate director of industrial security. Each division has included variations for its individual operating procedures.

"This manual is a tool to be used in fulfilling the security responsibilities of your job," said J. H. Famme, GD/Convair president, in the foreword of that division's manual. "Read it. Study it. Use it. Do not gamble with our security."

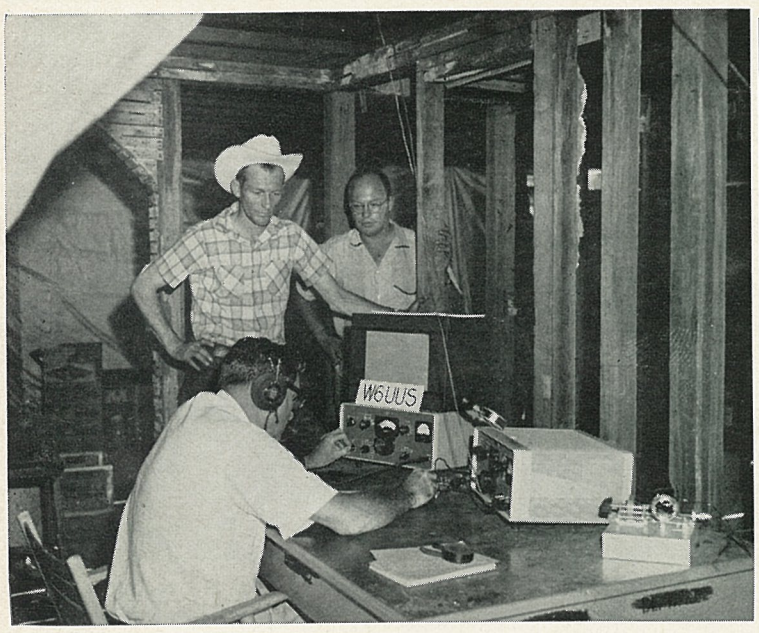
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Patriotic red, white, and blue cover of the GD/Convair security manual received an award of merit from the Art Directors Club of San Diego at its annual exhibit this spring.

It was designed by P. J. Fitzgerald, chief of art and editorial at GD/Convair. Artist was Frank Freeman.



AUTOMATIC—A. Ocone, left, GD/FW group engineer, punches button that starts numerically controlled drafting and line plotter. At right is J. C. Starnes, manufacturing research and development supervisor. Buttons near Starnes are for manual operation, if desired.



HARD WAY—Using emergency power facilities set up in abandoned house, Frank Kemper mans ARA Radio Club station as Ron Jenkins and Hal Thompson look on during last year's annual Radio Field Day. This year's national event will be held June 23-24 using same location for ARA rig.

Annual Gun Club Shoot Set For Sunday, July 1

Winning trophies requires skill, but having fun calls only for participation in the Industrial Recreation Council Gun Shoot to be hosted by CRA-ARA Gun Club.

This annual shoot, one of the year's top events for local nimrods, will be held at Gillespie Field range, Sunday, July 1. All General Dynamics shooters are eligible without entry fee.

Three events form the program, beginning with the 50-yard, 22-cal. rifle match at 8 a.m. Rounding out the schedule are two 50-bird events, skeet and 16-yard trapshoot, starting at 10 a.m. Entrants will be assigned to five-man teams for all events. A turnout of more than 15 teams is anticipated, said Jack Swank, CRA commissioner.

Trophies will be awarded first and second-place team members in all three events. Capping the honors is a perpetual trophy for each event, upon which names of winning team members will be inscribed.

Shooters are asked to furnish their own guns and ammunition.

Targets will be supplied by the Gun Club. Refreshments will be available at the grounds during the meet.

Entries may be made through Swank, ext. 2583, GD/Electronics Plant 1, or ARA Commissioner Ezra Johnson, ext. 2283, Astro main plant.

UNBEATEN SPACEMEN HUMAN AFTER ALL

CRA-ARA's top volleyball team, Spacemen, has come down to earth after winning both split-season titles in Industrial Recreation Council Friday League play.

They were dumped in their bid for an undefeated season, 15-12, 12-15, 15-10, by Park and Recreation June 1 at Muni Gym. Dept. 101 whitewashed Project Support 15-0, 15-0 in the other Friday League match.

Wednesday League results for June 6 saw Support Documentation skunking Convair Engineers 15-0, 15-0. Astronets beat City Engineers 15-10, 15-11, and Hounds squeaked by NEL 15-13, 12-15, 17-15.

Last Wednesday (June 13), Support Documentation (4-0) and Hounds (3-1) were vying for the chance to take on the Friday champs in the June 14 play-off.

Astro Gardeners To Host CRA Club

Both a new date and new location have been announced for the next meeting of ARA Garden Club.

Since the regular date is a holiday (July 4), the session has been rescheduled for 8 p.m., July 11. The group will meet in the auditorium, ARA Clubhouse, rather than at Balboa Park's Floral Bldg. as in the past.

Members of CRA Garden Club will be guests of the Astro group for a tour of the Clubhouse and ARA Area. ARA Commissioner Everett Henderson has announced a special program and planning for the joint ARA-CRA Dahlia, Fruit and Vegetable Show to be held in August.

Glider Pilots Will Compete

Summer soaring season starts for General Dynamics glider addicts as they get primed for the coming contest June 30-July 1 at Skylark Field, Elsinore.

Contestants will come from Los Angeles, Antelope Valley, San Diego to take part in the two-day event. Sponsoring are Associated Glider Clubs of Southern California and the affiliated CRA Glider Club.

Merchandise prizes will go to high scorers whose ratings will be based on achievements during an open cross-country event one day and specified tasks the next.

General Dynamics people competing or working on committees are Sterling Starr, Duke Stallings, Gene Cain, DeVaughn North, Ernie Shattuck, all of GD/Astro; Walt Mooney, now of General Atomic; CRA Commissioner Gene Whigham of GD/Convair.

Night Courses To Begin Soon

General Dynamics people in the San Diego area are reminded of summer educational opportunities now available.

Courses in business administration, engineering, mathematics, psychology are offered at night through University of California Extension. Most classes are held at Roosevelt Junior High School. Summer session opens June 25.

Evening classes for the San Diego State College summer sessions, June 25 through Aug. 3, include subjects in humanities, physical science, psychology.

Summer classes at San Diego City College begin July 2 and include business law, business machines, business practice, data processing, economics, mathematics.

Educational services sections at GD/Convair, exts. 2568 or 491, Plant 1, and GD/Astronautics, ext. 1933, Kearny Mesa site, will give further information.

Saturday Salvage Schedules Listed

GD/Convair and GD/Astro salvage yards will be open for employee sales on the following Saturday morning schedule:

GD/Convair—June 23, July 7.
GD/Astro—June 30, July 14.

Sales hours are from 8 a.m. until noon.

Dynamics 'Hams' Getting Ready For Field Day

General Dynamics "hams" will join amateur radio enthusiasts across the nation and abroad as they take to the air waves June 23-24 during the annual Amateur Radio Relay League (ARRL) Field Day.

Goal of the event is for stations to make as many radio contacts as possible during a 24-hour period using emergency (battery and generator) power supplies.

Both CRA and ARA Radio Clubs are firming plans for participation.

ARA Radio Club will operate again this year from the Johnson house, an abandoned dwelling near Astro's Sycamore Canyon Test Site. In the 1960 Field Day the ARA station (W6UUS) ranked first in California and fifth in the nation with 8,442 points.

Astro Field Day arrangements are headed by Hal Thompson (K6ZPC), aided by R. Reed K6MFY) and E. Carson (W6-UNM), antennas; H. E. Philby (K7DLR/6), power generator; and C. Parker, food.

ARA will transmit simultaneously with four stations operating from 80 meters to 2 meters (3.5 to 148 mcs).

Convair Radio Club's station will be set up in the new CRA Pine Crest recreation area on Hwy. 79 between Julian and Cuyamaca.

The dozen or so manning the operation will use the gas-powered generator at the site, said CRA Commissioner Jim Lack (WA6CYD).

Heading arrangements for the CRA group is Don Bain (WA6-MRE) with L. D. Rush (K6QXN) in charge of antennas.

Anyone interested in observing is invited to visit the site any time during the 24 hours, from noon on Saturday until noon on Sunday, said Lack.

Final details will be worked out at tomorrow evening's (June 21) meeting in the CRA Radio Club headquarters, Harbor Drive, at 8 p.m. All members and other GD/Convair and GD/Electronics people with licenses are urged to attend to receive full instructions and maps locating position of the station.

Flight Schedules To Support Bases Calif. to New York

Direct San Diego to Plattsburgh AFB, N.Y. flights in support of General Dynamics/Astronautics base activation activities were begun this week using a newly acquired DC-6B aircraft operated by GD/Convair crews.

The aircraft will operate eastbound on Sunday, Wednesday and Friday, with westbound return trips on Monday, Thursday and Saturday.

Overnight (Flight 602) eastbound trips originate in San Diego, departing 6:15 p.m. (PDT); arrive at Omaha, Neb. at 11:45 p.m. (CST) with departure at 12:45 a.m. (CST). Plattsburgh AFB arrival is at 7:15 a.m. (EDT).

Westbound (Flight 603) the aircraft leaves Plattsburgh at 9:30 a.m. (EDT); stops at Omaha at 12:15 to 1:15 p.m. (CST); and arrives in San Diego at 6 p.m. (PDT).

On Wednesday and Friday, passengers from GD/Astronautics Convair 240s flying the Walker - Dyess - Altus - Schilling AFB circuit can make connections with the Plattsburgh-bound DC-6 at Omaha.

Employees traveling on company business may make flight reservations by calling GD/Astro travel center, ext. 4355.

Save Material—Don't Throw Your Job Away!



FINE ART—Techniques for producing attractive cakes are shown to Martha Buchan by Gil Hutter, left, and Jim Spain. Class will be sponsored by Astro Wives Auxiliary starting June 28.

Professional Instruction Offered Wives In Cake Baking and Tricky Decorations

Free professional instruction in cake and gelatin decorating will be offered in a series of classes sponsored by Astro Wives Auxiliary starting June 28, 9 to 10:30 a.m., in ARA Clubhouse.

Instruction for wives of all GD/Astro employees will be offered by Gil Hutter, Prophet Company cafeteria manager, and aides Jim Spain and Jack Malone.

"Instruction is free, but participants will be asked to supply their own materials at sessions following the first introductory meeting," Hutter said.

The course, planned for weekly meetings over a six to eight-week period, will include cake baking and construction, and decorating of cakes and gelatin.

Class reservations may be made by calling Mrs. R. J. Buchan, BR-8-8706.

Trapshooter, 14, Scores String

Steve Floore, 14, son of Vern Floore, GD/Astro Dept. 170-0, blasted 75 consecutive clay pigeons in CRA-ARA Gun Club's trapshoot June 10 at Gillespie Field. Young Steve, with only three months trapshooting experience, finished the day with the astounding record of 124 hits in 125 tries, Jack Swank, CRA commissioner, reported.

Steve will test his ability in top flight competition in the 15th annual Mullinix Memorial Shoot. The Mullinix, sponsored by Miramar Gun Club honoring Adm. H. M. Mullinix, is one of the top shooting events of the San Diego area and open to CRA-ARA shooters. It will be held June 22-24 at Miramar NAS gun range.

Novice Tennis Tourney Set

General Dynamics novice tennis enthusiasts in the San Diego area have been invited to take part in a CRA-sponsored tournament at Morley Field courts July 7-8, 14-15.

Play will include men's singles and doubles, and, if at least 12 entrants register, women's singles.

All General Dynamics employees and members of their families who have not reached the finals or semi-finals of an ARA or CRA-sponsored tournament during the year are eligible to compete.

Additional information is available from CRA Commissioner Pete Beyrer, Plant 1 ext. 1245, or Ben Cendali, ARA commissioner, Sycamore Canyon ext. 58.

Lensmen Schedule Illustrated Talk

"Pictures Outdoors at Night," an illustrated lecture prepared by Eastman Kodak, will be presented at the meeting of Astro Lens, ARA camera club at 7:30 p.m. July 1 in the Photo Arts Bldg., Balboa Park.

Public Approves American 990s

American Airlines' Convair-built 990 Astrojets are proving "highly-popular" with the flying public, say AA officials.

Reporting on six weeks of operation on the New York-Chicago route, where the country's newest airliner made its debut March 18, American said its 990s flew with 72 per cent of seats occupied by revenue passengers during the period.

Two 990 Astrojet flights go daily from Idlewild Airport to Chicago, and three from O'Hare Field to New York.

The airline also said that the 990 had achieved an outstanding on-time performance record in first weeks of service.

Since the New York-Chicago inaugural, American, only domestic airline operating the second-generation Convair jetliner, has added 990 service from New York to Detroit, New York-St. Louis, New York-Dallas, Dallas-Chicago, Newark-Detroit, and New York-Cincinnati. Service is planned for other cities in the future.

Overall load factor for all 990 service in April was about 62 per cent, compared to the system mark of about 58 per cent for all aircraft.

Toastmasters Mark Tenth Anniversary

Fifty-two members and guests joined in the tenth anniversary observance of Dynamic Toastmasters Club 457 held May 24 at Stardust Hotel, Mission Valley.

Club president, J. L. Williamson, chaired the special meeting and welcomed special guests.

Mort Rosenbaum, GD/Astronautics vice president, spoke on advantages of Toastmaster training in clear speaking.

Toastmaster was M. L. Sweeney with J. L. Carr, topic master, and C. C. Campbell, Toastmasters District governor-elect, evaluator.

Speakers were A. F. Turner, H. C. Hoskins, Ken Samples, and F. Stevens.



CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODLERS—Flying sessions each Saturday and Sunday, 7 a.m. until 1 p.m., Clairemont Mesa Flying Site.

BOWLING — Call CRA headquarters, ext. 1245, Plant 1, for information.

BRIDGE CLUB — Special monthly rate of $1.50 starts July 1. All General Dynamics players invited to Tuesday sessions, 7:30 p.m., Barcelona Hotel, Fourth & Juniper Sts.

CAMERA CLUB — Meeting June 25, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play each Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

COIN CLUB — Meeting June 21, 7:30 p.m., Convair main cafeteria, Pacific Hwy.

GLIDER CLUB — Weekend contest June 30-July 1 Skylark Field, Elsinore.

GOLF—Entries open June 21 to July 6 for CRA sweeps (July 14-15) at Circle R course. Call ext. 1705, Plant 1.

GUN CLUB — Annual IRC shoot July 1, Gillespie Field Range.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m., open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot June 24, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—Plans for annual Field Day (June 23-24) to be made at tomorrow's (June 21) meeting, 8 p.m., Harbor Drive headquarters.

RIDING CLUB — Trail ride, wiener roast at Bruce White ranch, Santee, June 23.

SOFTBALL — "Slow pitch" league games tonight (June 20), 6:30 and 8:15 p.m., Latter Day Saints diamonds, 47th & Ocean View Blvd.

SPANISH COURSE — Beginners class Tuesdays; review class Wednesdays, 7-9:15 p.m., Room 11, Conference Bldg., Balboa Park.

SQUARE DANCING — Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave. Party night, fourth Saturday, 8 p.m.

SWIMMING — Family swim night July 7 Mission Beach Plunge, 7-9 p.m. Free tickets at employee services.

TENNIS — Novice tennis tourney July 7-8, 14-15, Morley Field courts. Call Pete Beyrer, ext. 1245, Plant 1.

WATER SKI CLUB — Saturday skiing on phone-call basis. Call Jack Loos, ext. 2456, or Gene Sevigny, ext. 2779, Plant 1.

Water Skiing Slated At Members Demand

Water skiing continues on a phone-call basis for all GD/Convair and GD/Electronics skiers, said Gene Sevigny, CRA commissioner.

Any time enough want to enjoy the sport Saturday mornings on Mission Bay, arrangements will be made to have boats available. Calls are taken by Sevigny at ext. 2779, or Jack Loos, ext. 2456, both Plant 1.

"We supply everything but the bathing suits," said Sevigny. "And we'll be happy to give instruction to novices."

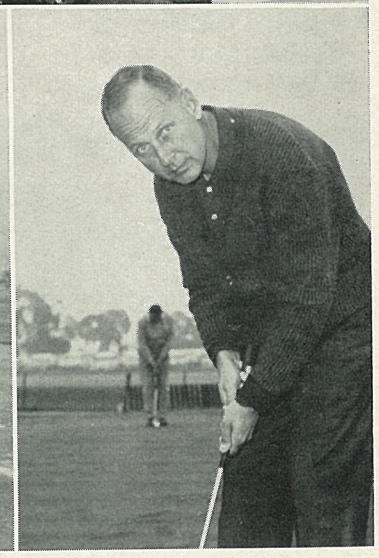












CLUB GOLFERS—Linksmen 438 strong turned out for annual NMA Southern California Area Golf Tournament this month at Torrey Pines. At top left, Harold Purnell of GD/Astro and Gerry Cox of GD/Convair check starting times. Cox was tournament chairman. Top center: Russ Davis, assistant tournament chairman, GD/Convair, collected trophy for creditable 78 over tough south course. Top right: Mr. and Mrs. Art King who with GD/Astro aides handled scoreboard. Lower left: Rudy Halabuk, Ryan club's president, who with Ryan aides handled special events prizes. Lower right: GD/Astro club's president, Art Wood, demonstrates his cross-handed putting grip. Lower center: from left, Barney Chambers, Jim Dempsey, Joe Famme and Ted Schroeder, among first foursomes off tee June 2. Photos by GD/Convair's Larry Lawson, among many who gave time to assure tourney's success.

DIVERS HEAR TALK ON SEA ARTIFACTS

A large crowd of Delta Divers heard a talk on underwater artifacts at last night's (June 19) meeting in the Convair cafeteria executive dining room.

J. R. Moriarity of Scripps Institution of Oceanography described the different types of artifacts found off the La Jolla coast and how they help to reconstruct life of former Indian inhabitants of the area.

Bob Casebolt (Dept. 6) won the abalone contest at the La Jolla Casa Cove on Memorial Day. J. Wood (Dept. 25) was second, and Harry Rusciguo (Dept. 6), CRA commissioner of the skin diving group, came in third.

Refreshments were served to the more than 30 divers, wives, and children at the family get-together.

Regular meetings are held the third Tuesday of each month at 7:30 p.m. in the executive dining room.

Bridge Club Offers 'Summer Special'

A summer special is offered all bridge players at GD/Convair and GD/Electronics by the CRA Bridge Club.

Beginning July 1 a new monthly rate of $1.50 will cover all Tuesday nights of play, including the monthly master point event.

Regular rates of 35 cents for each Tuesday evening and $1 for the master point session will continue for those who wish to play occasionally.

New players are urgently invited to participate, emphasized Frank Westphal, club president. General Atomic players are now attending the weekly card sessions held each Tuesday evening at 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts.

All General Dynamics people are eligible to take part.

Further information can be had by calling Westphal at ext. 2225, Plant 1.

Sports & Recreation

Field of 438 Turns Out For NMA Golf Tourney

GD/Convair, GD/Astro and GD/Pomona golfers took part this month in the annual Southern California Management Club golf tournament, held over Torrey Pines south course.

A total of 438 golfers participated, representing a variety of different clubs. GD/Convair's Gerry Cox, assisted by Russ Davis, was tournament chairman. Art King of GD/Astro, Mrs., King, Harold Purnell, John Sentovic and Jack Boyle also helped run the tournament, as well as Rudy Halabuk of Ryan Aeronautical Co. who, with Joe Setran of Ryan-Kearny Mesa and a Ryan committee conducted the highly successful "special events."

Among Dynamics golfers Russ Davis was low with a 78, followed by D. K. Whynott of GD/Pomona with a 79. Others who collected prizes included: C. B. Bagaloff, G. Lang, G. E. Putness, P. Parker, C. C. Campbell Jr., E. Bourgeois, all of GD/Astro; J. J. Jodka, C. N. Crocker, C. Stafford, J. Murphy, L. E. Woll, D. R. Bryson, B. F. Ferguson, J. F. Ryan, all of GD/Convair; L. A. Wood of GD/Electronics, and J. D. Bohlman of GD/Pomona.

In the "special events," GD/Convair's Terry Kell, Dick Parsons and Bob Rowland dominated the "long drive" competition on No. 1, and G. E. Nuss knocked in the longest putt on No. 6.

Circle R Will Host Next Golf Sweeps

Golfers can start registering tomorrow (June 21) for next CRA sweepstakes, said Ken Wulfemeyer, CRA commissioner.

Entries will be open until July 6 for the July 14-15 sweeps over Circle R course. "It's time to start getting in practice for the plant championships in September," warned Wulfemeyer.

To register call ext. 1705, Plant 1.

HUSBAND AND WIFE SCORE IN ANGLING

Keeping it in the family is the motto of CRA Fishing Club Commissioner Bob Menzie and wife, Ruth, who pulled in top prizes in last month's angling contest.

Mrs. Menzie, who usually hauls in the bigger ones to nose out her husband, took second spot this time with a 12-lb., 4-oz. corvina hooked at Salton Sea. Menzie's 12-lb., 12-oz. corvina, caught a couple of weeks later, headed the award list.

Third-place prize, given at last night's Fishing Club meeting at Gillespie Field Clubhouse, went to Anthony J. Pommier (Dept. 48) for his 16-in. rainbow trout netted at Lake Murray.

Discount Offered For Sportfishing

Sportfishing tickets worth $1 discount are available to GD/Convair and GD/Electronics fishermen at employee services, Bldg. 32, Plant 1.

Employees may exchange tickets at Seaforth Landing, 1641 Quivira Rd., Mission Bay. Reduced price for half-day trip is $4.50. Offer expires June 30.

GD/Convair Son, 13, Third in Freestyle Archery at Salinas

Thirteen-year-old Billy Egan was the only Convair Archery Club entry to place among winners in the State Field Archery Tournament at Salinas, Calif., June 2-3.

Bill, son of Bill Egan (Dept. 48), came in third in a closely-contested battle in the junior freestyle division. There were only six points between his standing and that of the winner, Jerry Ridge, another San Diego boy.

Frankie Smoot, guest member of the CRA club, stood fourth in the champ class of the women's barebow division.

At least half a dozen Convair bowmen tried their skill in the gusts of wind and rain which swept over the range, often so strong that targets were blown aside and archers had to brace themselves to shoot. Registered shooters numbered 427 from all parts of the state, said CRA Commissioner Al Phipps.

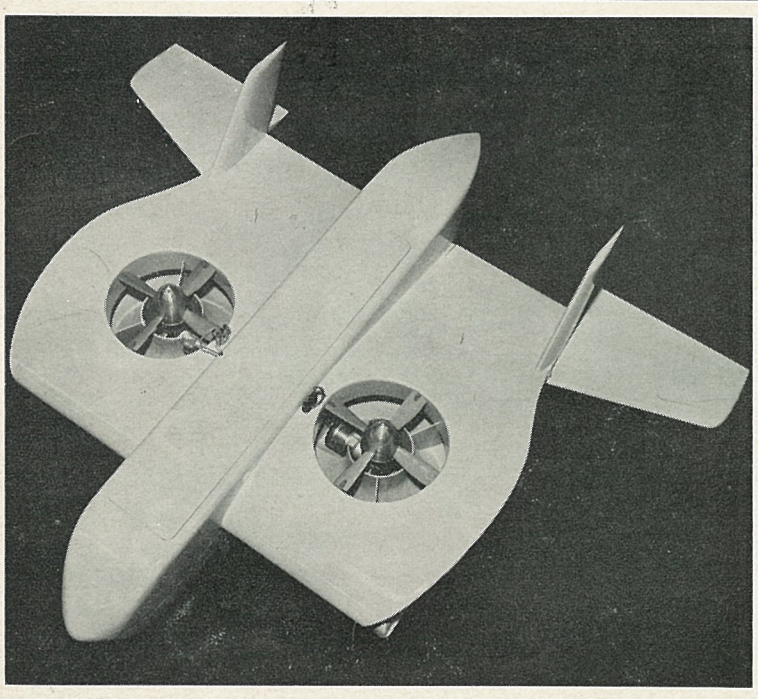
'Slow' Softball Loop in Action

GD/Convair "slow pitch" softball league swings into action tonight (June 20) for the second week of play at Latter Day Saints fields, 47th and Ocean View Blvd.

Tonight's slate pits Hi-Lows vs. GD/E Production Control and Electronics vs. Fire Dept. in 6:30 p.m. contests. Manufacturing Control Plant 2 takes on Accounting while GD/E Purchasing opposes Stores Dispatch Plant 1 in 8:15 p.m. games.

Schedule will consist of a split-season double round robin for a total of 14 games per team.

"Slow pitch" softball has special rules which allow more people to play regardless of their ability. Emphasis is placed on hitting and fielding instead of pitching.



"BUBBLE" PLANE—Photo shows one of proposed designs under study at GD/Convair for advanced GETOL (Ground Effect Takeoff and Landing) plane.

Air Bubble Takeoff Plane Under Study by GD/Convair

Studies at General Dynamics/Convair on a new type of airplane that can take off and land on a runway of air were disclosed today.

Called GETOL (Ground Effect Takeoff and Landing), the project was described in a paper today (June 20) during the annual summer meeting of the Institute of Aerospace Sciences in Los Angeles. GD/Convair engineers, Walter D. Reeder, design specialist, and R. W. McDonald, senior aerodynamics engineer, outlined progress of the GD/Convair program since its inception four years ago.

The GETOL concept combines features of aircraft that take off straight up, eliminating prepared runways, with conventional takeoff aircraft that have greater range and payload capability.

Reeder and McDonald explained that ground effect is a principle whereby an object can be lifted off and supported above the surface on a high pressure bubble of air.

Such a plane would be able to take off and land without touching the surface. It would be able to operate equally well from a variety of surfaces — rough or smooth, such as a jungle clearing, sand, ice floe, plowed field or debris-laden water.

The division envisions a wide range of military and commercial applications for such an aircraft. The fact that it would not require prepared runways would increase its mobility and usefulness in many areas where conventional takeoff aircraft are now being used. GD/Convair is specifically investigating the limited war applications of GETOL aircraft.

GD/Convair has two testing programs of powered GETOL models under way.

Low-speed wind tunnel tests of a model are being sponsored at GD/Convair's San Diego facility by the company and the U.S. Army Transportation Research Command. This 400-lb. model is powered by two variable frequency 35-hp. electric motors. They drive two 10.4-inch diameter fans located in the wing.

Results of these model tests were described as "most encouraging" by Reeder.

"The model maintains a stable attitude at speeds over 40 knots," Reeder said. "In other words, when the model makes the transition from ground effect to normal flight, it maintains an even keel—the nose doesn't pitch up or down.

"Also, as forward speed is increased, the model does not show a tendency to lose lift," he added.

Reeder also termed the preliminary data obtained on the efficiency of the model's air ducting system as most encouraging.

"Our first series of model tests shows that power thrust losses as low as 10 per cent may be possible. If this performance can be duplicated with a complete full-scale air ducting system, GETOL payloads of twice the value possible with VTOL will be a reality," he said.

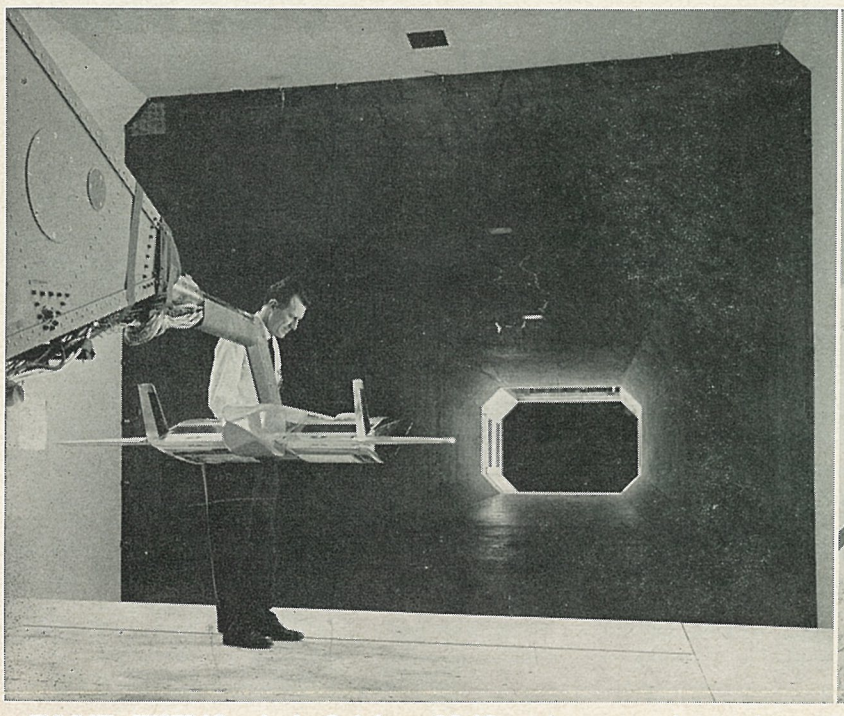
The paper also described dynamic model tests of GETOL configurations that have been conducted at the GD/Convair towing basin. These tests have been sponsored jointly by the company and the Bureau of Naval Weapons. The towing basin model is powered by two small gas engines that drive two four-bladed ducted propellers on top of the wing.

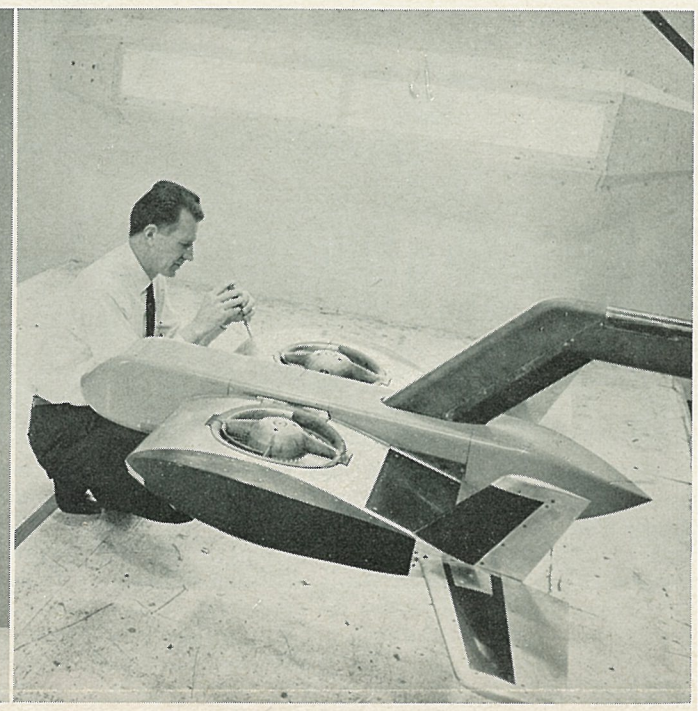
Under this program GD/Convair hydrodynamics engineers are studying various nozzle configurations to determine spray patterns when the model operates over water or sand. Other tests are being made to determine the model's behavior when operating over waves of various heights.

Reeder said that results obtained from both the wind tunnel and towing basin model tests are fed into an analog computer for interpretation so that operating environment can be simulated with a higher degree of accuracy.

Still a third series of GETOL model tests is being conducted in the company's airflow laboratory by thermodynamics engineers. Purpose of these tests is to study various air-moving methods and develop design of the complex ducting.

GD/Convair GETOL studies go back to 1958. It is believed that the San Diego firm was the first company in the United States to seriously study the application of the ground effect principle to aircraft development.





TUNNEL TESTING—Jack Quigley, GD/Convair test engineer, attaches 400-lb. model of GD/Convair-designed plane to fixture in low speed wind tunnel for checkout of stability. New concept provides for takeoff and landing without touching surface. Studies have been under way at GD/Convair since 1958 and combine advantages of vertical takeoff type with conventional craft.

More Production Hustlers Join SAC Forces at Bunker Hill AFB

Two more production Hustlers have joined SAC's Mach 2 retaliatory force at Bunker Hill AFB.

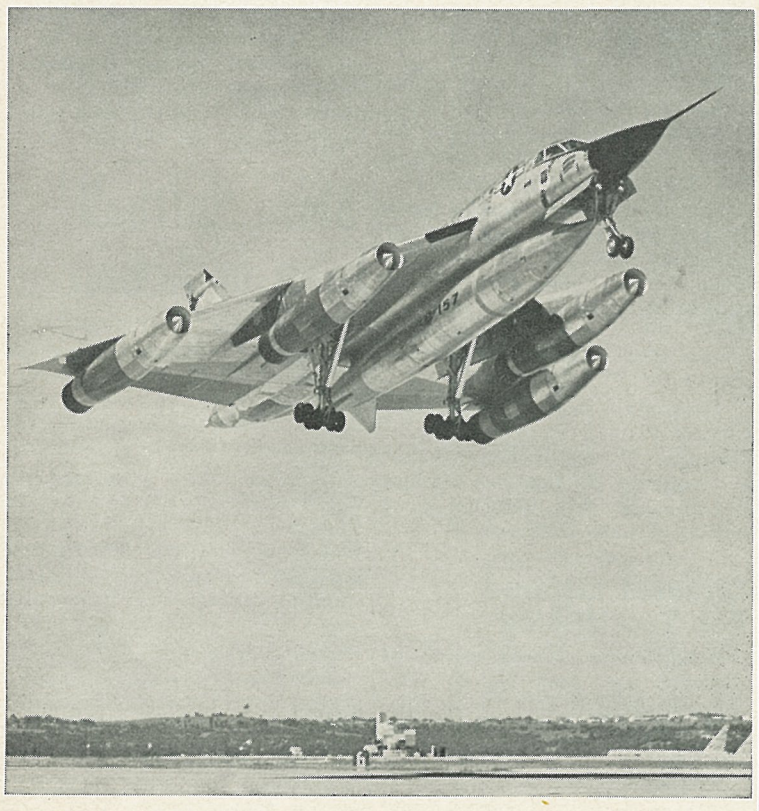
Hustlers Nos. 98 and 100 were flown to the Indiana base recently to increase 305th Bomb Wing's complement to 35 B-58s.

Hustler No. 98 was flown on a 3-hour, 40-minute delivery flight by a crew of Maj. D. J. Younger, pilot; Capt. R. L. Friedman, navigator; and Capt. P. A. Rowe Jr., defensive systems operator.

Making a 3-hour, 50-minute flight in No. 100 were Maj. I. D. Rothwell, pilot; Maj. J. H. Donavan, navigator; and Capt. R. M. Zefo, defensive systems operator.

Delivered on both planes were production two-component pods, which include a weapon-carry upper component and a fuel-carrying lower component which can be jettisoned when its fuel supply is used.

Hustlers Nos. 101 and 102 were in flight-line operations, while other B-58s up to 113 were in various other stages of preparation for company and Air Force acceptance flights.



INDIANA BOUND—Takeoff scenes like this were typical at GD/FW this month as two more production Hustlers joined 305th Bomb Wing at Bunker Hill AFB.



ENSHRINED — Participating in recent presentation of Bleriot Trophy to Air Force Academy were, from left: Maj. Gen. William S. Stone, academy superintendent, Mrs. Elmer E. Murphy, who made presentation, Cadet Col. David H. Roe, cadet wing commander, and Mrs. Eugene F. Moses, widow of record-breaking crew's navigator.

Speed Trophy Won by Hustler Presented to USAF Academy

The Louis Bleriot Speed Trophy of France, won last year by a SAC B-58 bomber crew from 43rd Bomb Wing, was presented to the United States Air Force Academy May 5.

Maj. Gen. William S. Stone, superintendent of the Academy received the trophy from Mrs. Elmer E. Murphy, widow of the pilot who made the record-breaking flight.

A Carswell AFB-based crew of Maj. Elmer E. Murphy, pilot; Maj. Eugene F. Moses, navigator, and Lt. David F. Dickerson, DSO, won the trophy for a flight made May 10, 1961. The crew flew their B-58 Hustler over a closed circuit, rectangular course about 666 miles long in 30 minutes, 43 seconds, averaging about 1,302 miles an hour. The flight began and terminated at Edwards AFB, Calif.

All three officers were later killed in an air crash at the Paris Air Show on June 4 of last year. The trophy then became part of Major Murphy's estate.

Louis Bleriot, French inventor, pioneer aviator and the first person to fly the English Channel, created the international competition for the trophy in 1930, six years before his death.

He stipulated that permanent award of the trophy required an aircraft to fly at least one-half hour at an average speed of 2,000 kilometers an hour (1,242.74 mph). Major Murphy's B-58 exceeded this requirement by 59 mph.

FIRST 880 AIRLINE PASSES MILESTONE

Delta Air Lines, first airline to inaugurate service with Convair 880s, marked its first year of service over the Southern Transcontinental Route last week (June 11).

It now flies 880s between Los Angeles, Dallas, and Orlando, Fla.

The Caribbean was linked with the West Coast via the Southern Transcontinental Route in December when Delta began first direct jet flights from California to Montego Bay, Jamaica, and Caracas, Venezuela. In May of this year Delta added one-stop jet service from Los Angeles to San Juan, Puerto Rico.

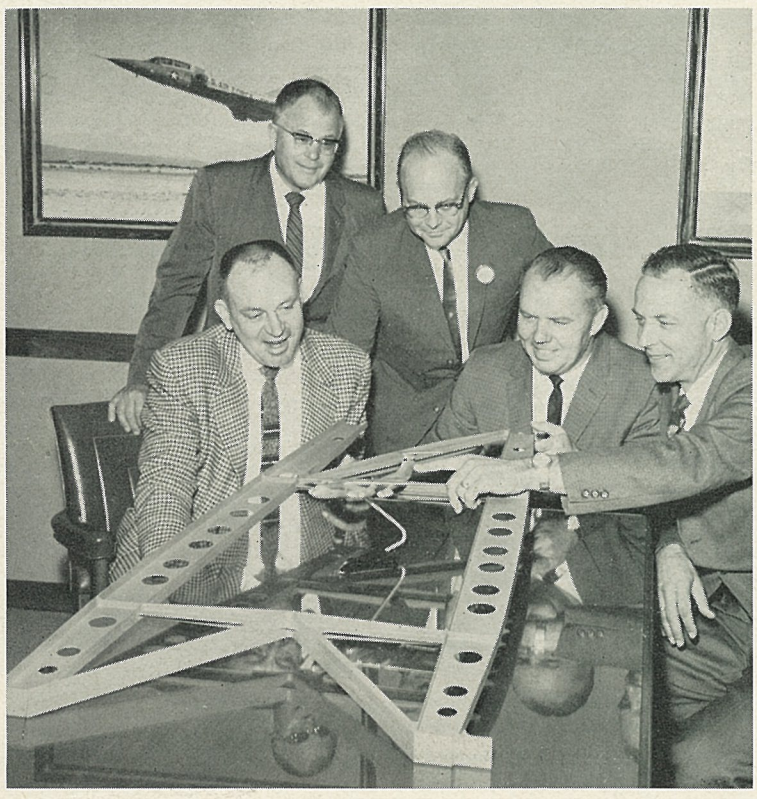
Delta now operates 12 Convair 880s and will accept delivery on four this summer.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 14 PUBLISHED BY GENERAL DYNAMICS CORPORATION Thursday, July 5, 1962



C-141 RIB ONCE-OVER—First vertical stabilizer rib machined at GD/Convair for C-141 empennage is inspected by N. F. Hill, Lockheed-Georgia Co. C-141 subcontracts material administrator (standing, center). GD/Convair men (from left) are T. W. Brotherton, C-141 quality control representative; N. P. Pearson, C-141 pre-production superintendent; G. E. Nuss, tool engineering general supervisor; Robert W. Miller, C-141 project engineer.

It's Full Steam Ahead For GD/E Value Effort

First full-term value control seminar for General Dynamics/Electronics day-shift personnel is full steam ahead with two five-man teams in second week of training.

The current seminar, which will continue through July 13, is a follow-on to the pilot course which inaugurated GD/Electronics-conducted value control program early last month.

GD/Electronics administrators kicked off the seminar program with talks on various phases of value control and its importance to the division.

"GD/E Meets the Challenge," was topic of I. D. Sykes Jr., assistant to general manager of GD/Electronics at San Diego, as the ten men from both GD/E facilities were introduced to value control principles.

Scheduled to be on the lecture agenda were C. L. Kimball, manager of purchasing; H. J. Stuart, manager of reliability and quality control; W. A. Rabe, manager of advanced engineering; R. J. Cary Jr., manager of engineering services; J. W. Colvin, manager of plans and programs; D. Wahl, manager of engineering; A. S. Freedman, manager of design assurance.

Others explaining value control application included E. F. Demers, design specialist; L. L. O'Neal, buyer; S. Spalter, operations cost estimator; C. Licastri of cost estimating; R. H. McManus of bid estimating; R. Hickok, operations; G. D. Patrick, production engineering; M. M. Reeder, value control coordinator; and C. W. Christie, acting value control coordinator.

(Continued on Page 2)

Tech Writing Certificates Earned by 59

As the second year of technical writing training at GD/Convair ended in mid-June, 59 people received certificates of completion in the four classes coordinated by educational services.

This boomed to more than 150 the number of students completing the division's in-plant courses in the mushrooming field since the pilot course was held in 1960. Ten survived the initial full-year's training.

Louie Henderson of service publications conducted the first year of instruction which saw pioneering students indoctrinated

(Continued on Page 2)



GRADUATES—One of four classes completing GD/Convair spring semester technical writing courses line up to receive "diplomas" from instructor, Louie Henderson. At far left are Wayne Turner, educational services coordinator, and J. A. Holland, service publications supervisor.

New Assembly Concept To Build SATS MATS

A new assembly concept, the automated line, is taking shape at General Dynamics/Convair for fabrication of individual landing mats under the SATS MATS contract from Naval Air Material Center, Philadelphia, Pa.

Planning is virtually complete on a line, motivated by monorail and conveyer belt system. Approximately 30,000 square feet of space has been set aside in the west section of Bldg. 2 at the San Diego facility for complete SATS (small airfield tactical support) MATS operations.

Machining, receiving, shipping, warehousing, and assembly functions will be consolidated in the area between Cols. 4 and 17. The line is scheduled to be set up ready for certification some time in September, said C. L. Jackson, program manager.

"This is probably the most automated line that has ever been used at GD/Convair," Jackson emphasized.

In the meantime, work is progressing on a pre-production line being put up by plant engineering in Bldg. 1. Here, in-house machinery will be checked out and first lot of "sandwich" panels will be fabricated for test purposes. It is due to go into action by the end of this month.

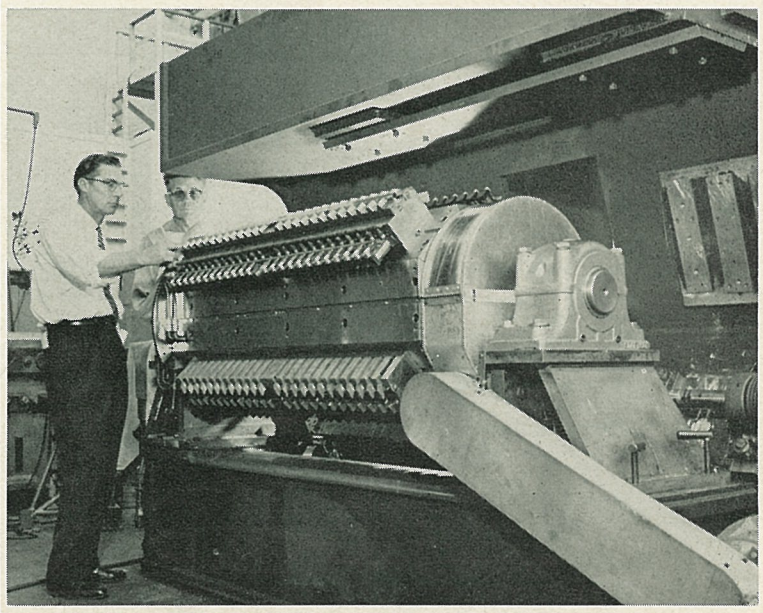
When the final automated line is activated this fall the process will fall into a dozen or so logical steps, from metal details to finished mats.

As metal parts are machined they will be loaded on an overhead monorail and run through a series of tunnel-type continuous processing units for precleaning.

The aluminum parts will be removed from the monorail for automatic welding of sides to one lid, then replaced and run through an etch, rinse, and dry process.

Then they will be loaded onto a flat power roller conveyor for adhesive spray and an air dry, pre-cure cycle. The pan is inverted, core inserted, top lid tacked on. The assembled panels are placed in bonding presses in groups of six and moved automatic welding machine for final securing of the top skin. Surface is cleaned as they pass through a brush cleaner.

Another monorail system takes them through the last two-stage step for painting, drying, and application of non-slip finish. As the completed mats come off the end of the line they are automatically stacked on pallets for shipping, explained Don Quinn, area engineer, who has been responsible for preliminary planning under V. A. Petricola, methods supervisor.



BUILT FOR PURPOSE—Arling Berg, GD/Convair tooling manufacturing assistant foreman, checks plans with R. H. Cowie (Dept. 401-4) during assembly of new-type milling machine designed especially for SATS MATS program.

Machines Being Set Up For One-a-Minute Pace

Machines designed at General Dynamics/Convair especially for a one-a-minute production schedule will be undergoing exhaustive checkouts within the next couple of weeks before they take their place on the SATS MATS line.

GD/Convair tool designers, applied manufacturing researchers, tool manufacturers, plant engineers have combined efforts to develop unique equipment for the conveyor-type assembly of landing mats for Marine Corps fighter planes.

Special equipment built at GD/Convair includes a milling machine, welding machines, bonding presses.

The milling machine will be used for milling of edge members and lock bars for the 48x48-in. mats in a continuous operation. S. E. Smith, tool design supervisor, said that the revolving drum with eight stations, will carry parts through all milling operations. Finished parts are automatically ejected ready for cleaning. Four parts can be milled every minute to keep pace with the one-a-minute time schedule when mats go into final production.

The special welding machine is also automatic with a continuous procession of pans and cover skins going in and coming out welded together. A corner welding machine, also of GD/Convair design, will secure aluminum corners and tack-weld one skin on before the embryo mat moves into the main welding machine. A hydraulic panel mechanism controls all cycling functions.

Two of the 12x6-ft. welding machines will be used when mass production of the current order of about 27,000 mats begins this fall.

H. E. Kobrich's tool manufac-

(Continued on Page 2)

Timekeeping Changes Help Reduce Costs

A close look at GD/Convair paper work has resulted in elimination of one timekeeping form and revision of another to simplify operations wherever possible.

The value control searchlight was directed specifically on two forms, "Failure to Punch" slip and "Daily Attendance Irregularities" record.

Team members, E. R. Fink, M. B. Fuhrmann, W. H. Goggin, D. L. Harvey, and A. A. Vernon, found that the "Failure to Punch" (pink slip) could be eliminated entirely without affecting essential timekeeping records.

Material and manhour cost saved by this move amounts to nearly $17,500 a year.

A modification of the "Daily Attendance Irregularities" form to achieve greater efficiency and utility from the report will result in a ten per cent cost savings, or over $3,000.

Both recommendations have been put into effect.

Club Members Plan Night at Ball Park

It's "out to the old ball game" for GD/Convair Management Club fans and their families at specially-reduced prices this month.

Tickets to the San Diego Padres game July 25 when they take on Seattle are now available at all regular ticket outlets at $1.25 each.

Tickets entitle all holders to sit in box seats between home plate and first base at Westgate Park.

Deadline for buying tickets is Monday (July 23), warned H. C. Hoskins, who is heading arrangements for the Management Club.

Tickets to 14 Padre Home Games To Be at Stake in Monday Draw

Winners of the next baseball ticket drawing will have a chance to see one of the 14 Padre games scheduled at Westgate Park during July, courtesy GD/Convair Recreation Association.

Drawing will be next Monday (July 9) from all entries deposited in the box at employee services counter, Bldg. 32, Plant 1.

Slips must contain name, clock number, shift, department number, location, plant extension. Only one to a person is allowed and may be brought in person or mailed to Baseball Drawing, zone 3-20.

Padres' home schedule this month is: July 11, 12, 13 vs. Hawaii; July 14 and 15 double-header, Portland; July 23, 24, 25, 26, Seattle; July 27, 28, 29 double-header, Vancouver.

Log Book Entries



Receiving 25-year emblems recently at GD/Convair were John E. Gott (Dept. 15-0), left, and W. M. Woolford (Dept. 31).

Service Emblems

CONVAIR

Service emblems due during the period July 1 through July 15.

Twenty-year: Dept. 6, A. W. Bluder, R. D. Howard; Dept. 23-1, C. F. Stark; Dept. 44-3, P. C. Chak; Dept. 401, F. A. Morain, D. F. Winters, E. L. Zimmerman.

Fifteen-year: Dept. 6-800, E. M. Gross, William Ponce, G. S. Schendel; Dept. 14-2, F. A. Driessen; Dept. 15-0, H. E. Wolfe; Dept. 25-1, B. B. Myers, F. L. Patterson; Dept. 48, Andrew Aguirre, Edna W. Nelson; Dept. 91-7, T. J. Albright; Dept. 102, W. A. Treece; Dept. 149, E. L. Holtwick; Dept. 171, W. F. Bankston Jr., J. V. Leras; Dept. 192-9, C. S. Lunsford; Dept. 401, T. L. Pritchard.

Ten-year: Dept. 3, Patricia B. Rauzon, L. D. Slosser; Dept. 6, R. W. Gilbert, C. H. Gladding; Dept. 14-4, J. R. Alcock; Dept. 16, N. A. Bodwell, Coral A. Brack; Dept. 21-1, G. W. Gissendanner; Dept. 27-6, Lela G. Fitch; Dept. 29, V. M. Echevarria, B. E. Lee Jr., C. W. Russell.

Dept. 34-2, J. M. Somers Jr.; Dept. 115, J. H. Kern; Dept. 192, P. R. Bryant, J. G. Handel, R. G. Taylor; Dept. 400, Eileen L. Darcy, D. T. Molnar, E. R. Sperl; Dept. 401-0, L. A. Tucker.

HOLLOMAN AFB

Ten-year: Dept. 313-4, A. M. Custodio.

GD/ELECTRONICS

Fifteen-year: Dept. 6(5107), Aline D. Desilets, R. F. Grimsley, T. J. Sanders; Dept. 8(5123), Ethel C. Boster.

Ten-year: Dept. 6(5107), Ethel F. Sparacio; Dept. 11(5721), C. F. Jessup.

Retirements

CONVAIR

BURNS—Johnnie B., Dept. 31. Seniority date March 8, 1951, retirement effective June 15, 1962.

DESSERY—Jennings R., Dept. 120. Seniority date Sept. 25, 1947, retirement effective June 22, 1962.

GOETSCHIUS—Calvin R., Dept. 25-1. Seniority date Sept. 22, 1952, retirement effective June 13, 1962.

HENDERSON—George C., Dept. 101. Seniority date June 1, 1956, retirement effective May 31, 1962.

KEMP—Albert E., Dept. 149. Seniority date Dec. 23, 1946, retirement effective June 15, 1962.

McFARLAND—John J., Dept. 120. Seniority date Sept. 25, 1947, retirement effective June 22, 1962.

NELSON—Artis R., Dept. 14-4. Seniority date March 31, 1952, retirement effective June 22, 1962.

PEDERSON—Ralph, Dept. 218. Seniority date May 5, 1947, retirement effective June 5, 1962.

STAYTON — Charles F., Dept. 400-1. Seniority date June 25, 1953, retirement effective June 8, 1962.

WARD—Herbert A., Dept. 25-5. Seniority date May 19, 1950, retirement effective June 12, 1962.

Promotions

CONVAIR

Promotions to or within supervision effective June 18.

Dept. 6-300, Engineering: To chief of propulsion design, H. W. Callihan. To mechanical group engineer, H. W. Dvorak.

Dept. 23-3, Resources Engineering: To chief of manufacturing methods, R. D. Marks.

Dept. 91-0, Accounting: To accounting supervisor, H. E. Wall.

GD/ELECTRONICS

Dept. 2, Controller: To accounting asst. supervisor, R. A. Moersch.

Dept. 10, Purchasing: To manager of material, L. A. Wood.

Deaths

CONVAIR

HOHMANN—Richard K. Jr.; Dept. 48-03. Died June 26. Survived by wife, Etta L. Hohmann; daughter, Joan Hohmann; parents; sister.

SMITH—Harold D. Sr., Dept. 95. Died June 22. Survived by wife, Sarah M. Smith; sons, William R. and Harold D. Smith Jr.; brother, Wilkie A. Smith.

Personals

CONVAIR

My sincere thanks and appreciation to friends at both Convair and Astro divisions for the many kindnesses shown my husband, Leroy E. Fligel, during his long illness, and for the beautiful flowers and tokens of friendship sent at his passing.

Gladys Fligel, Dept. 400.

* * *

The family of Spiro D. Koulaxizes (Astro Dept. 140-1) wish to express their gratitude to their many Convair friends for the assistance and kindnesses during their recent loss.

George D. Koulaxizes, Astro Dept. 959-1.

Tech Writing Certificates Earned by 59

(Continued from Page 1)

with 36 hours of basic writing; 30 hours, advanced training; and 60 hours workshop in practical engineering writing.

A second instructor, Allan Walden, also of service publications, was added to the staff the following year as demand increased. Walden also conducts technical writing classes at San Diego City College.

Henderson and Walden opened three summer session courses this week. For the first time, these courses have been categorized to receive three units of college credit for each level. All will extend for a nine-week period, twice a week, three-hour classes. They are all held in Bldg. 19 basement, classroom 3.

Basic class, taught by Walden, is on Mondays and Wednesdays, 4:30-7:30 p.m. Henderson is teaching two intermediate sections — one on Tuesdays and Thursdays, 4:30-7:30 p.m., and the other on Mondays and Wednesdays, 12:30-3:30 p.m.

Although classes opened the first of this week, registration still will be taken at the class sessions next week, said Wayne Turner, educational services coordinator. Turner may be reached through ext. 491, Plant 1.

Full Steam For Value Control

(Continued from Page 1)

Projects under consideration are pointed toward definite areas at GD/E facilities, said Christie.

A Plant 1 project on reduction of unnecessary costs in any electronic assemblies using hook-up wire is under investigation as an assist to value assurance.

Team members are N. R. Ball (Dept. 9), L. M. Barnes (Dept. 5), K. R. Keef (Dept. 6), R. L. Picard (Dept. 6), I. L. Kemper (Dept. 3). Project leader is B. M. Skrobiza of Dept. 3.

Second team is assigned to a GD/E (Hancock Street) project concerning power supply assembly used on S-C 1090 direct view display. Members are M. N. Macari (Dept. 5), R. Schuchman (Dept. 9), R. B. Gruber (Dept. 10), R. C. Merrilees (Dept. 9), W. A. Huot (Dept. 3). Project leader is R. C. Mansell of Dept. 3.

W. H. Goggin of GD/Convair educational services is assisting in coordination of the GD/Electronics continuing program.

Machines Built For Fast Pace Of SATS Line

(Continued from Page 1)

turing people have been assembling the mill and welding machines to specifications worked out by tool design. Applied manufacturing research developed welding techniques to be used in assembling the mats.

Unique bonding press design, conceived by applied manufacturing research and developed by facilities engineering, will allow parts to be loaded in vertically instead of in the conventional horizontal method.

As far as is known, this is the first time this concept has been used on this large a scale, said R. E. Dennington, facilities engineer.

Coils in the aluminum platen will supply steam to cook the panels under pressure 20 minutes at glueline—between skins and core—at 275-350 degrees F. Parts will be clamped in the press under 175 pounds of pressure per square inch using factory air boosted through a compressor into the air storage tank and applied pneumatically in the press.

Pressure will be maintained after the 20-minute cooking time until temperatures drop down to 180 degrees F. with cool water pumped through the same coils that carry the steam.

At present, the first press is located in Bldg. 3 to use steam supply from the 40-ft. autoclave system. Initially, two mats will be processed at a time, but on the final line six to 10 can be handled in one press simultaneously. And, the first press will be joined with four or five identical others to handle mats in quantities as produced on the automated line.

AMERICAN EXPANDS ITS 990 SERVICE

New 990 flights began this week on American Airlines' routes connecting New York and Chicago and New York and Detroit.

Two additional 990 trips a day have been added between New York and the Midwestern cities.

The new New York-Chicago and New York-Detroit 990 flights bring to seven the number of daily round trips flown on each route by Convair's newest airliner.

Beginning July 1 the new 990 flights departed New York International Airport for Chicago's O'Hare Field at 4 and 7 p.m. Eastbound, they leave Chicago at 10 a.m. and 6 p.m.

New 990 departures from New York for Detroit are at 11:25 a.m. and 3:15 p.m. and from Detroit for New York at 1 and 5:30 p.m.

Hoyt and Gillon Die Of Heart Ailments

Two widely-known General Dynamics men died suddenly last month, both following heart attacks. They were:

William W. Hoyt, manager of employment at GD/Pomona, who joined the company at San Diego in 1943, transferring to Pomona in 1951.

Verser C. Gillon, manager of program planning at GD/Fort Worth, who had been with the company since 1942. His aviation career involved major assignments in almost all phases of the Fort Worth plant.

McClure Appointed To Top Society Post

J. Y. McClure, General Dynamics director of reliability and quality control, has been named chairman of the board and chief presiding officer of the American Society for Quality Control.

He also was appointed chairman of the group's finance committee.

McClure has served in a variety of posts in the Society, as executive director, treasurer, vice president, and president.



LECTURE BREAK—Exchanging ideas during full-day value control presentation by E. D. Heller of GD/Pomona for GD/Electronics and GD/Convair men are (from left) L. F. Pickett, Rohr Aircraft Corp.; A. S. Freedman, GD/Electronics manager of design assurance; H. W. Rubottom, GD/Convair chief of educational services; C. W. Christie, GD/E acting value control coordinator; Heller; W. H. Goggin, GD/Convair educational services coordinator; H. P. Williams, GD/Convair manager of value control.

GD/Pomona Cost Target Program Outlined in San Diego Lecture

A cost target program for use during development stage of new projects, now being activated at GD/Pomona, was outlined by E. D. Heller, GD/Pomona value engineering coordinator, during a one-day lecture series at San Diego June 22.

GD/Electronics and GD/Convair men heard Heller explain objectives of the cost target concept from initial design through to retirement of a product. Cost boundaries are defined for each step involved in development and production to help meet the challenge of competitive cost considerations for new products.

Morning session of a full-day value control presentation was directed specifically to participants in the current GD/Electronics value control seminar. Heller's subject dealt with "Function—Definition and Evaluation as a Basic Value Control Concept."

A general presentation reviewing history, concepts, techniques, use of job plan and benefits preceded the lecture on "Cost Targets for Product Design," which climaxed the three-part series.

Blueprint Cribs Consolidated in One Location

Blueprint cribs in factory areas at General Dynamics/Convair have been consolidated in one main crib in a cost-cutting move which will save at least $10,000 for the division.

The blueprint crib, serving the north area of production functions, now is located at the north end of Bldg. 33. Those formerly located in Bldgs. 2, 3, and 4 have been vacated.

The move, designed to streamline the blueprint distribution system, resulted from a concentrated division effort. Original recommendation for revision in distribution methods stemmed from a GD/Convair value control seminar survey. These studies were followed closely by monitors of Project Advance's initial cost reduction drive.

Implementation of the final version was effected by the Resources Economics group with factory management coordination. E. D. Robinson, superintendent, and M. S. Stepich, chief of manufacturing control, assisted in promoting the change.

Supply of blueprints on file will be cut by 67 per cent. Now, only about ten prints for each project will be needed. Blueprints of the Convair 880 and 990 programs and other current projects are available at the main blueprint headquarters. Actual time spent in obtaining blueprints will be reduced at least by half, estimated R. D. Marks, chief of manufacturing methods. Most of the savings in dollar outlay is achieved through reduction of maintenance, manpower, floor space, and duplication of blueprints.

Delta Divers Choose New Officer Slate

B. G. Wood of Dept. 25 heads the new slate of officers chosen to guide activities of CRA Delta Divers during the next club year.

Ron Ashbrook of GD/Electronics Dept. 5 is vice president; Weldon Cochran, treasurer; and Cynthia Casebolt (wife of Bob Casebolt, Dept. 6), secretary.

A boat excursion to the Coronado Islands for yellowtail spearfishing has been set for July 15, said Harry Ruscigno, CRA commissioner. Regular club meeting will be July 17, 7:30 p.m., Convair executive dining room, Pacific Hwy.

Save Material—Don't Throw Your Job Away!

Travel Reservation Offices Are Moved

Travel reservations office at General Dynamics/Convair has shifted locations from Bldg. 19 second floor to Plant 1.

The reservations headquarters, headed by Dorothy Luscomb, is now in Bldg. 16, in offices just north of the employment section. Phone extensions remain the same, exts. 2600 or 2611.

All travel arrangements for GD/Convair, GD/Electronics, Advanced Products personnel located in San Diego are channeled through this office. It is under supervision of Frank R. Field, chief of traffic, material stores.

Bond Drive Adds 250 New Buyers

Over 250 new U. S. Savings Bond buyers were added to the program at GD/Convair and GD/Electronics divisions during the mid-June drive.

GD/Convair people now purchasing bonds total 4,541, an increase of 154. Percentage of participation was raised from 59 to 64.5.

An additional 101 GD/Electronics employees signed up for the payroll deduction plan to make a total of 510 and raising participation from 33 to 41 per cent.

Average deduction at GD/Convair now stands at $7.76 a week and $8.47 for GD/Electronics bond buyers.

Documentation Wins Volleyball Tourney

GD/Astro's Support Documentation Volleyball team emerged champ of the IRC tourney following play-off late in June.

Support Documentation, undefeated winner of the Wednesday League, took three matches from Spacemen, Friday League winners, to the tune of 15-8, 15-4, and 15-11.

Both teams wound up the season at a chicken barbecue last Saturday night (June 30) at Pecan Park, said CRA Commissioner Pete Beyrer. Individual trophies were handed out and the perpetual trophy went to Support Documentation.

General Dynamics NEWS

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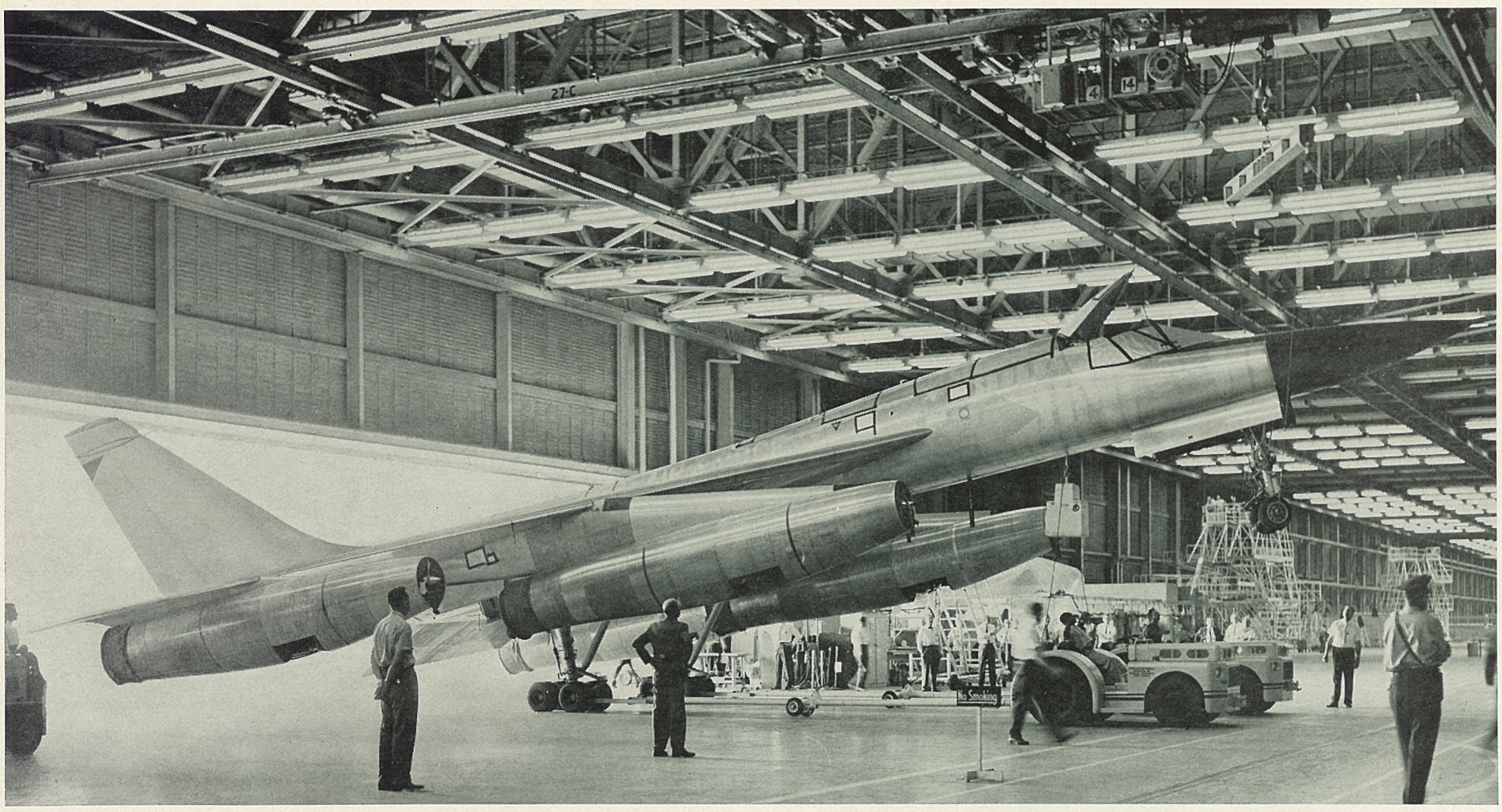
Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

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* * *

Affiliated editions of General Dynamics NEWS are published in Rochester, N. Y., covering GD/Electronics and GD/Telecommunication, editorial offices, 100 Carlson Road, HUbbard 2-2200, ext. 2555, Gordon Morison, editor; and at Groton, Conn., covering GD/Electric Boat, editorial offices at Groton, HIlltop 5-4321, ext. 300 and 513, Joseph Tracey, editor.

Total circulation of all General Dynamics NEWS editions, nearly 90,000.



SQUEEZE PLAY—Hustler No. 4, en route to trainer-bomber modification area in plant, became first B-58 to be towed through east door of GD/Fort Worth plant. Because Hustler's tail towered above door top, B-58 nose was tilted up 11 degrees, enabling tail section to "slide" under.

British Recognize GD/Astro's Bossart

Karel J. Bossart, GD/Astro technical director, was honored recently by the British Interplanetary Society as the first recipient of its bronze Astronautics Medal.

Dr. W. R. Maxwell, society president, presented the award to Bossart during a recent visit to GD/Astro Kearny Mesa plant.

Dr. Maxwell noted Bossart was known as "father of the Atlas," and cited him for his "individual contribution to the science of astronautics, particularly in the engineering sciences."

Frank Fink to Talk At SAE Gathering

Frank Fink, formerly chief engineer at GD/Convair and now vice president of engineering, Ryan Aeronautical, will speak to members of Texas Section, Society of Automotive Engineers, Sept. 21.

The meeting will start at 6 p.m. at Inn of Six Flags.

Frank W. Davis, GD/Fort Worth president, will present the speaker. Lloyd Halpenny of Dept. 89-0, newly-elected vice chairman of the society, will preside.

Trainer-Bomber Change Starts on First of Four

Hustler No. 4, first of four test B-58s slated for conversion to trainer-bomber status, was moved into the main plant this month and readied for modification.

Work on No. 4 is to begin July 2. Starting work dates on the remaining three planes: No. 3, Sept. 1; No. 9, Oct. 1; and No. 2, Nov. 1.

Modification work will be done in the former F-106 area, from Columns 93 to 109 between aisles A and B.

Development departments will purge, test and remove instrumentation on each Hustler as it is cycled into the program. Modernization will update the planes, supported by various factory departments.

Nose of No. 4 was tilted about 11 degrees in order that the Hustler's tail, which stands about 30 feet off the ground, could be lowered enough to clear the 21-foot, 7-inch tall east door of the plant.

The door—known as the 123-foot east door—is adjacent to the modification area.

No. 4 is undergoing engineering configuration review and inspection prior to start of actual work.

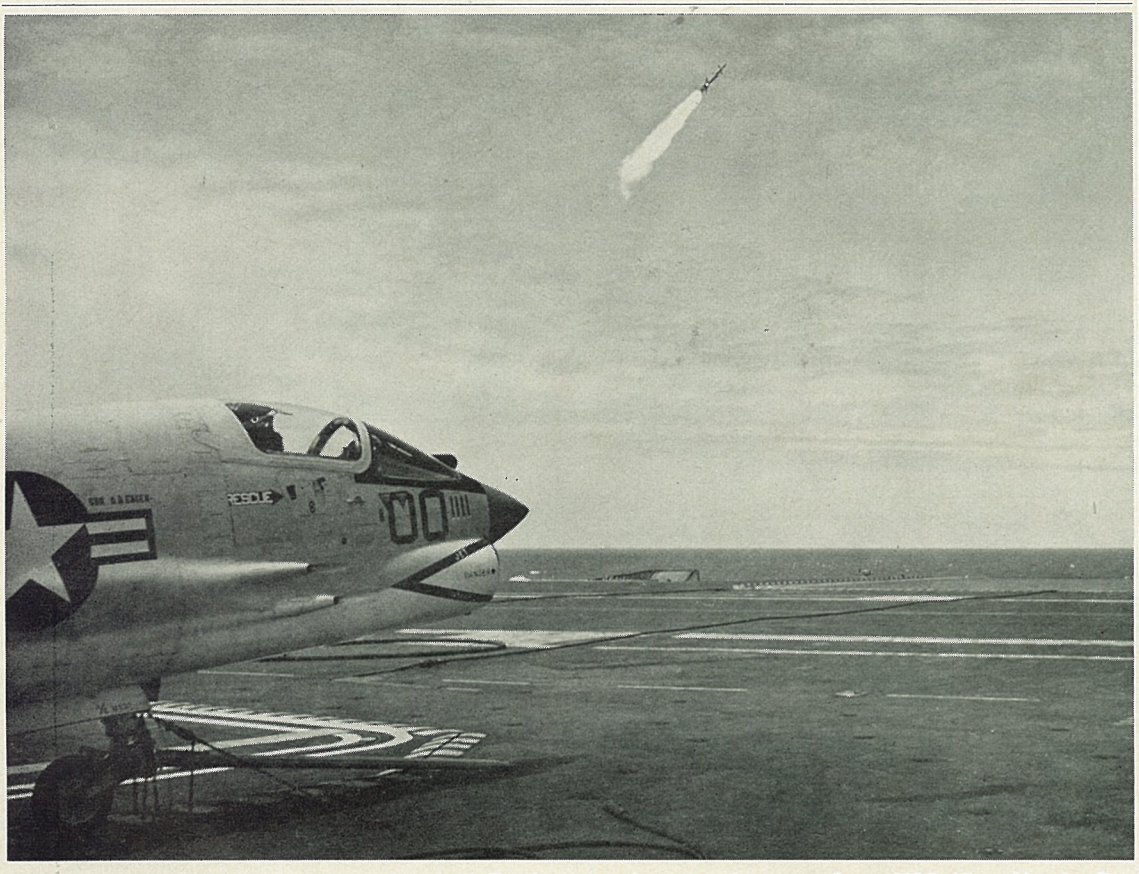
Towing No. 4 to its work site through the larger north door would have been impractical, a spokesman said, since considerable equipment would have had to be moved.

Gil Clark Gets Transfer Post

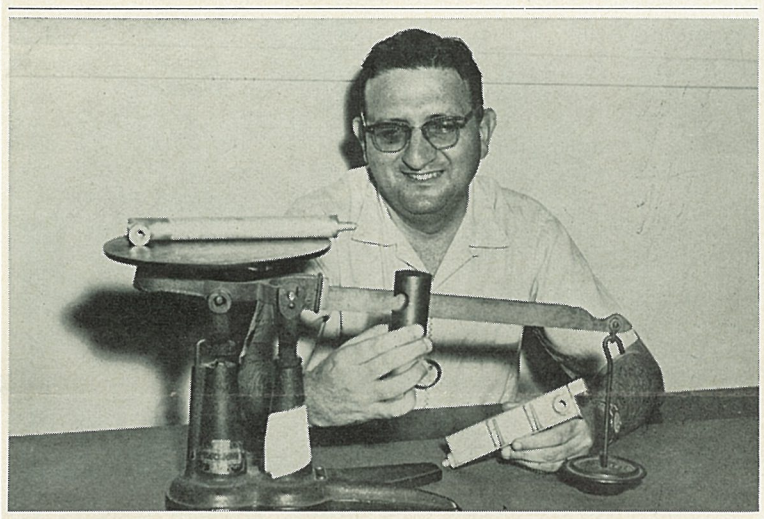
Gilbert D. Clark, veteran sales executive, last month was named project manager—transfer tasks for General Dynamics/Convair, reporting to F. S. Chambers, manager of contracts.

Clark succeeds Lyle Wood in the post which involves coordinating and expanding GD/Convair efforts in performing tasks for other Dynamics divisions. Wood transferred to GD/Electronics at San Diego last month as manager of material.

Clark, who soon will receive a 25-year pin, was an engineering pilot at Vultee Field in the early days. For the bulk of time, however, he has been a regional sales manager, specializing in South American customers for GD/Convair transports.



OFF THE KITTY HAWK—An Advanced Terrier speeds toward target from USS Kitty Hawk, first "missile packing" carrier assigned to Pacific Fleet. Navy reported firings were "completely successful" recently on Pacific Missile Range.—U.S. Navy photo.



WEIGH-IN—Weight of new "value-engineered" B-58 part vs. original is compared by J. M. Frost, one of several GD/FW weight engineers who are constantly on lookout for superfluous poundage.

B-58's Weight Closely Watched To Be Sure It's in Right Spots

The B-58 Hustler constantly watches her weight—not only to keep it down, but to keep it in the right places.

She gets a highly competent assist from 25 GD/Fort Worth weights engineers, who helped conceive the Hustler's weight at "birth" and who have kept close tabs ever since.

"Weight must be kept in the right location so that the plane can keep the right center of gravity (CG) at all times," points out J. M. Frost, a project design engineer in the weight control group.

The CG keeps the plane "balanced" in flight.

"As an example, replacement of SAC seats with heavier B-58 escape capsules shifted the weight of the Hustler slightly forward," Frost explained. A different usage of fuel was suggested to counter-balance the weight-shift.

While GD/Fort Worth weight engineers meticulously count the metallic ounces added to or subtracted from a Hustler, they are constantly on the lookout for new ways of cutting weight, too.

The two avenues most commonly explored: lighter metals and smaller components.

"Aluminum honeycomb—and in some instances titanium—used on the B-58 is considerably lighter than materials and construction used before supersonic planes came on the scene," Frost said.

"But since honeycomb aluminum has heat limitations somewhere in the Mach 2-3 regime, the industry is now looking for metals equally as tough but more resistant to heat."

Titanium solves some of the problems. It's lighter than steel, but still heavier than aluminum.

"Magnesium is being used extensively and a metal being explored industry-wide is beryllium," Frost said. "It's about four times as light as steel and may be able to stand up to hypersonic speeds. At this point, however, it's expensive and quite hard to form."

Replacement of vacuum tubes with transistors has reduced the size, thus weight of electronic packages appreciably.

"Now comes micro-miniaturization," Frost said, "which reduces the weight of transistorized packages to about one-tenth of present weight.

"In most cases the micro-units are more rugged and able to take more vibration, and in many cases greater temperature."

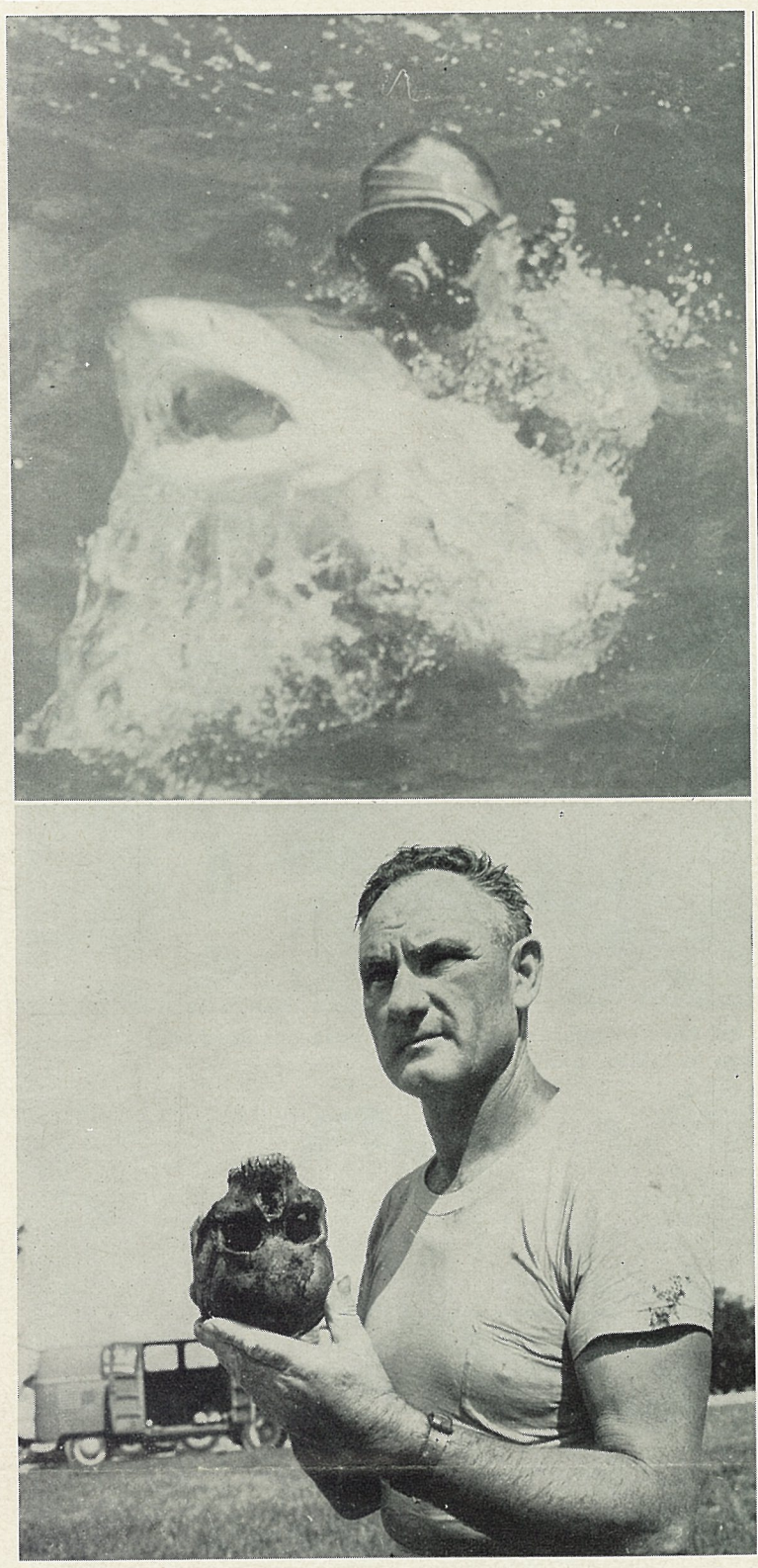
As an example, Frost pointed out, micro-miniaturization would reduce the size of the Hustler's short-range communication system from 45 to 21 pounds—more than half.

"And this is a conservative example," he said. "In one instance, we theoretically reduced the weight of a unit from 70 to 15 pounds."

Thus far, value control seminar projects have already accounted for a B-58 weight reduction of 16½ pounds and a cost savings of $105,000.

CARL BROWN HEADS LEGAL ASSOCIATION

Carl Brown, General Dynamics/Astronautics patent counsel, has been elected president of the San Diego Patent Law Association for the 1962-63 term.



DIVER—William R. Royal of GD/Astro, presently assigned to Dyess AFB in Texas, has spent a good deal of time (8,000 hours) in the air, and a good deal of time, too, beneath waves. In top photo he surfaces aboard a shark!

Deep Sea Broncs

Shark-Riding Ex-Pilot Says: Trick's in Getting On and Off

DYESS AFB — The plains of Texas are probably the last place to look for a skindiver, but William R. Royal, GD/Astro plant engineering construction estimator here, has enough deep water memories for a lifetime.

Now assigned to site operations (Dept. 618-3), Royal has dipped an aqualung in two oceans, countless lakes and the Gulf of Mexico. He's a former Air Force lieutenant colonel, a pilot with 8,000 hours of flying time, and enthusiastic amateur archaeologist who rides sharks for "kicks."

He is a grandfather (11 grandchildren), in his mid-fifties. One of his nine children, Walter, is in GD/Astro Dept. 250-2 at the main plant.

Royal first took to the water in 1953 during a military assignment on Johnston Island. He has free-dived to 90 feet and can stay under holding his breath for three minutes. With an aqualung he has descended to 260 feet.

Shark riding came naturally to a man who has landed about 35 of the big fish. He slips a noose over the shark's tail, climbs aboard and directs his "mount" by manipulating its pectoral fin.

His archaeological interest was spurred by fossilized bones and teeth of mammoths and other prehistoric animals he recovered from under water in the Gulf of Mexico. Perhaps his most notable "find" is that described in the October 1960 issue of American Antiquity.

At Warm Mineral Springs, Fla., is a cave some 40 feet under water, where Royal discovered human skeletal remains including a skull containing soft, preserved fragments of a brain. Radiocarbon techniques dated a charred log found nearby at about 8,000 B.C.!

Isn't there some risk in these exploits? Shark-rider Royal views them calmly.

"Just two problems with the sharks," he shrugs. "Getting on —and getting off."

GD/Astro Men Earn Master's Degrees

Among those receiving advanced degrees from San Diego State College last month were two General Dynamics/Astronautics men, Eugene Rosen of Dept. 170 and Patrick W. Gowan of Dept. 526-6. Both received master's degrees in business administration.



GD/Convair Displays Training Techbooks

GD/Convair Programmed Instruction Techbooks were displayed recently at an exhibit held in connection with the national convention of the American Society for Training directors at Dallas, Texas.

Howard Kennedy, manager of technical publications, and J. D. Meacham, service publications editor, conducted the display.

Dynamics Men Represented at NAS Symposium

General Dynamics men were prominent among the 200 delegates from industry, government, and military organizations throughout the country who attended the 7th Military-Industry Missile and Space Reliability Symposium at North Island NAS June 18-21.

Gen. B. A. Schriever, USAF commander, Air Force Systems Command, keynoted the conference with a talk on "Management —Key to Accomplishment." Other top officials from government, military, and industrial agencies spoke and conducted panels on phases of reliability in management, contracts, design, cost of unreliability in the missile and space systems field.

A. C. McMaster, GD/Pomona manager of quality control, was a member of the "Missile Reliability" panel on the opening day, while L. M. St. Martin of GD/Pomona reliability design support was scheduled to speak on "Results of a Test-to-Failure Program on Electronic Parts."

GD/Convair personnel attending included B. J. Simons, chief engineer; F. A. Stephenson, assistant chief engineer; W. W. Johnston, reliability engineer; R. A. Karva Jr., senior reliability engineer; R. V. Shields, chief of reliability; H. P. Williams, value control manager; G. R. Bailey, quality control lab supervisor; L. G. Lawson, inspection assistant supervisor; O. G. Scarborough Jr., quality control senior engineer; T. W. Brotherton and L. C. Stuckey Jr., inspection general supervisors; G. A. Covington, manager of quality control; and W. J. Martin, director of quality control and production flight.

Other General Dynamics representatives from Pomona, Electronics, Astronautics divisions also attended.

The annual symposium was sponsored by Office of Director of Defense in cooperation with the Army, Navy, AF, NASA and hosted by Bureau of Naval Weapons.

GD/FW RESERVISTS PREPARE FOR DUTY

Four GD/Fort Worth employees are members of the 622nd U. S. Air Force Hospital Reserve which will be airlifted to Maxwell AFB, Montgomery, Ala., Aug. 4-19 for a two-week tour of duty.

They are Capt. Walter R. Hill, Dept. 3-4, squadron commander; Capt. Ted Hayes, Dept. 11-3, training officer; T/Sgt. Harold R. Williamson, Dept. 11-2, NCOIC personnel section; and S/Sgt. Jack Thomas, Dept. 4, NCOIC admission and disposition section.

Located at Carswell AFB, the 500-bed Air Force Reserve Hospital was recently named by Continental Air Command Headquarters as an outstanding non-flying unit. The unit has 30 officers and 265 airmen.

Librarians Elect Canter and Blair

Louis Canter, library and information services manager, and K. G. Blair, technical information specialist, at GD/Astronautics, were elected recently to top San Diego chapter offices of the Special Libraries Association.

Canter and Blair were named president and vice president respectively of the group which includes professional librarians from industrial, government and university libraries.



ACHIEVEMENT — Celebrating distribution of 1,000th pair of shoes to needy children by polishing and refurbishing some more are participants in Walker AFB Astro Wives Club's "Operation Shoe." They are Mmes. Katan, Taylor, Smith, Blanchard, Clem, Niemann, Fetter, Livesay and Davies.

'Operation Shoe' to Aid Needy Kids Expanded to Include Clothing

WALKER AFB — What started last November as a two-month project of the welfare committee of Astro Wives Club here, is still "going strong" and recently passed a milestone.

Dubbed "Operation Shoe," the project began when committee members were advised that a number of Roswell, N. M., children were unable to attend school because they lacked shoes.

In November, the group began collection. Used shoes were polished and refurbished and then sent to schools for distribution.

Then when some needy children could not be fitted with sizes on hand the group opened a campaign with cookbook sales and a raffle directed by Mrs. William Cassall, ways and means committee chairman, to raise $350 to purchase new items.

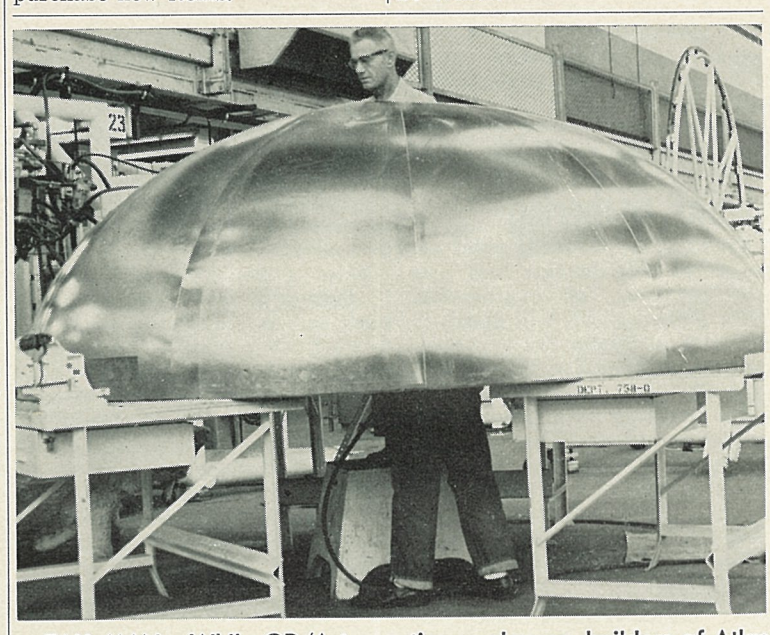
At the end of the two-month period, the need for shoes was still great, and the project expanded to distribute clothing, and even some essential home furnishings.

Recently the committee distributed its 1,000th pair of shoes!

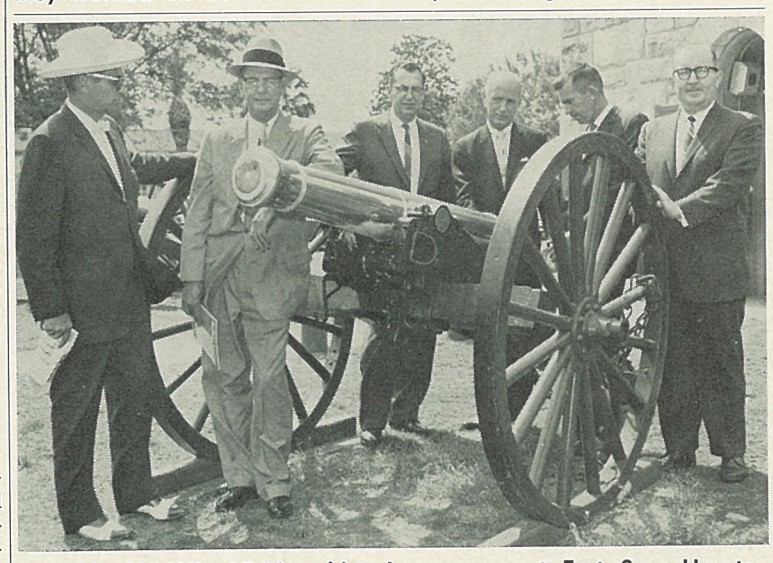
"Operation Shoe" is directed by Mrs. Robert Katan, welfare chairman.

Members of her committee devoted many hours to refurbishing shoes and clothing, and fitting children with the items in classrooms, homes and even on street corners.

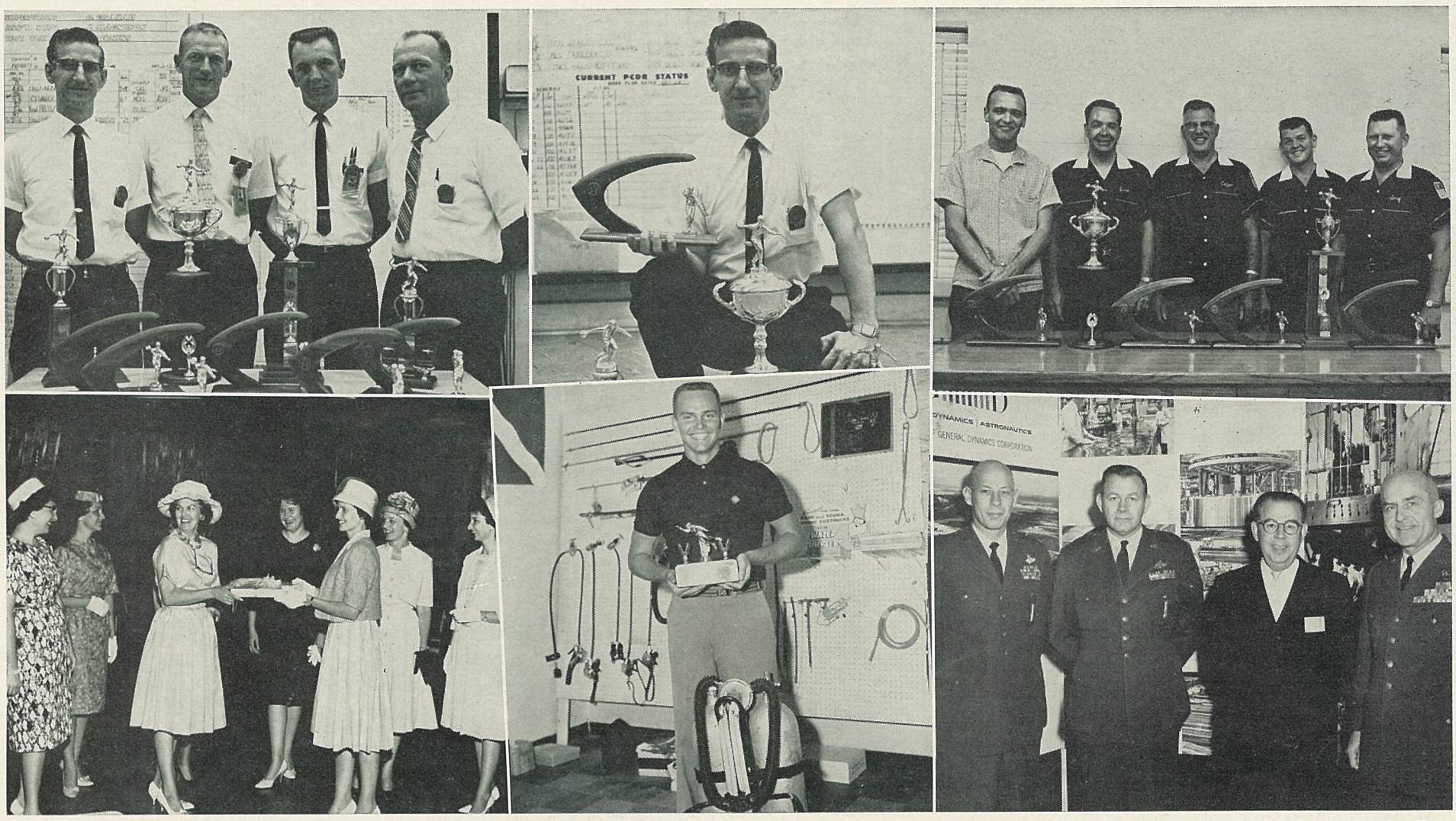
They included Mmes. J. L. Blanchard, D. E. Clem, M. N. Davies, C. J. Fereday, G. W. Fetter, John Livesay, W. A. Neimann, G. E. Smith, C. J. Taylor, W. A. Wigington, J. L. Wilcox, and R. D. Wintz.



TALL MAN—While GD/Astronautics employees, builders of Atlas and Centaur vehicles, have often risen to great heights in achievement, not all can boast of being this big. Tom Mahnken, Astro photographer, snapped these Astro men (appearing to be one) as they worked on bulkhead at Plant 2, San Diego.



"BIG GUNS"—Visiting historic cannons at Fort Sam Houston during recent Spares Logistic Conference in San Antonio were, from left: J. J. Walden Jr., manager GD/FW office San Antonio; J. J. Minton, GD/FW administrator for program planning; K. R. Aiken, manager of support logistics, GD/Astro; Roy Gallagher, GD/FW manager of spares; John C. Henson, San Antonio; and D. B. Campbell, manager field service electronics, GD/Electronics, Rochester, N. Y.



ROUNDING THE BASES—GD/Astro bowlers at Dyess AFB appear in top row. At left are John Leonard, Wally Mead, Harry Ballowe and "Red" Mowery, who with Pete Schroble and Jack Owens placed second in Officers League and third in Abilene (Texas) City Tournament. At right is IAM team, Mike Armstrong, Gene Madegan, Noble Coffenbarger, "Ole" Olson and Tony Osterman, who won Officers League. In center is John Leonard with trophy display. Lower left is installation of new Astro Wives Club officers at Dyess. Gift is for Virginia Key, outgoing president. Shown are Pat Harbin, installing officer, Rowena Kerber, Mrs. Key, Shirley Thompson, new president, Dorothy Chase, Vera Booth, Linda Sardina. Lower right: Atlas base at Plattsburgh, N.Y., was visited recently by Plattsburgh Mayor J. J. Tyrell and 60 civic leaders. With mayor are Col. R. W. Beck, 556th Strategic Missile Squadron commander; Col. C. W. Fite Jr., SATAF commander; Col. W. R. Close, 820th Aero-Space Division commander. Lower center: Steve Westman, GD/Astro dispatcher, who won all-events at Cape Canaveral "Underwater Games." Westman, shown with trophy and equipment, represented ARA Skin Diving Club in various contests.

Silo Launcher Simulator Installed For Training at Vandenberg AFB

VANDENBERG AFB—An Atlas F-series silo launcher simulator designated T-602 has been installed here by General Dynamics/Astronautics and is now in use by Strategic Air Command's 576th Strategic Missile Squadron.

The trainer is designed to familiarize Air Force crews with procedures used in transfer of the Atlas from its handling trailer to the F-series silo for erection prior to lowering it into the "hard" site.

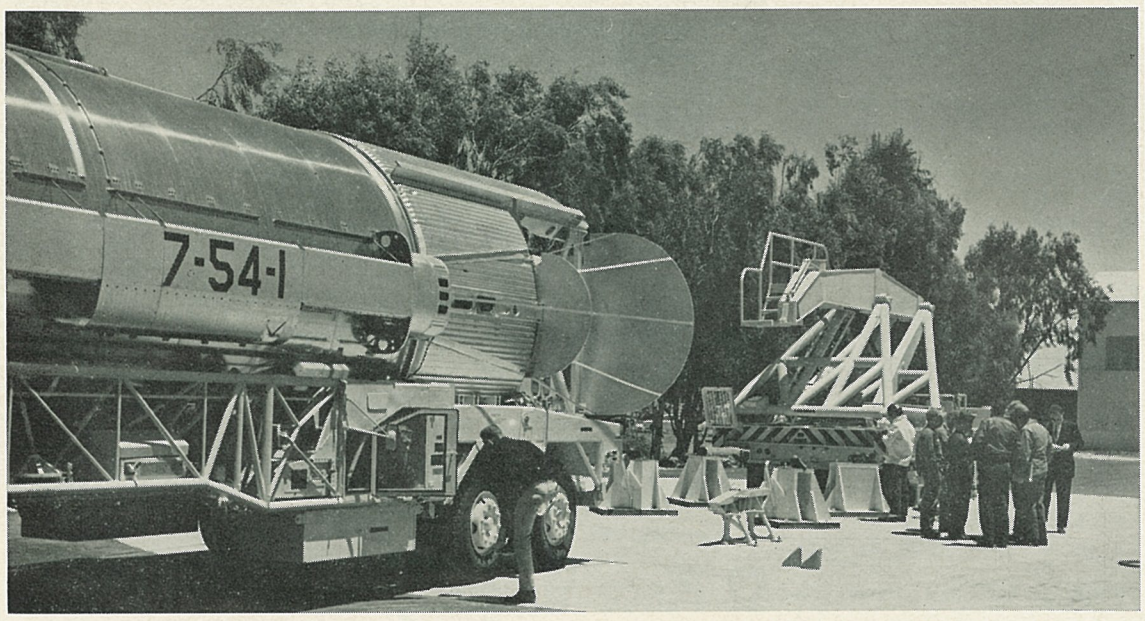
T-602 includes replicas of the silo cap and pad area, a modified missile, pneumatic storage facility to house bottled gas for missile pressurization, missile handling trailer, mobile erector trailer, and a 440-volt power supply.

The trainer is a product of the trainer devices group (Dept. 321-5) of GD/Astro's product support. Principal engineer for T-602 was Jack Gollaher, with Vern Boyer, supervisor, and W. E. Magnuson, general supervisor.

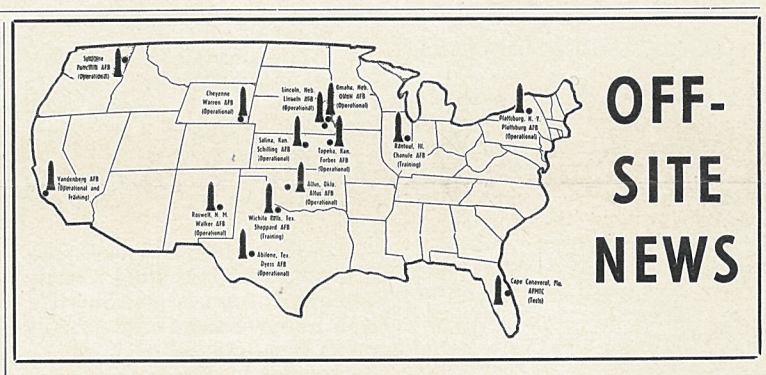
Missile modification was accomplished by Dept. 344-3 at GD/Astro's Plant 2 support center.

At Vandenberg AFB, R. D. Bergan, chief of product support, coordinated arrangements for the trainer's installation, with D. A. Robinson of plant engineering (Dept. 250-2) handling facilities construction.

T-602 will be used in a training program for missile vehicle operators from F-series Atlas bases throughout the country. Five-week classes are climaxed with simulated cross country run.



ARRIVAL—A full size F-series trainer is shown on arrival at Vandenberg AFB where it will be used to train missile vehicle operators.



AFMTC—R. E. Flanagan, ext. 4011.
ALTUS—Jean Foster, ext. 669.
DYESS—G. D. Higgins III, ext. 8370.
EDWARDS RS—Chris Marques, ext. 27.
LINCOLN—Maxine Utley, ext. 412.
PLATTSBURGH—Elly FitzPatrick, ext. 6281.
SCHILLING—J. E. Riley, ext. 213.
SHEPPARD—Steve Delbridge, ext. 8243.
VANDENBERG—Lucy Signorelli, ext. 8-5046.
WALKER—Rod Bricker, ext. 603.

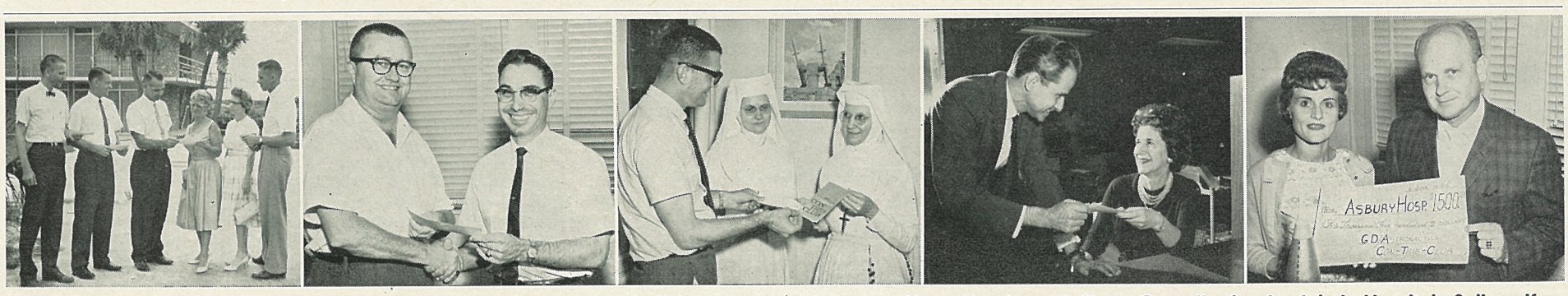
GD/Astro Bowlers at Dyess AFB Collect Assortment of Prizes

DYESS AFB — GD/Astronautics employees here ranked high in local bowling circles during the season just concluded, collecting a wide assortment of trophies.

Bowling on an IAM team which topped the 16-team Dyess Officers' League were Mike Armstrong, Gene Madegan, Noble Coffenbarger, "Ole" Olson and Tony Osterman.

An ARA team of John Leonard, Wally Mead, Harry Ballowe, "Red" Mowery, Pete Schroble and Jack Owens finished as second place team in this league, and then ranked third in the Abilene City Tournament.

Leonard won the largest collection of "hardware," receiving, in addition to team trophies, awards for first place in both all-events handicap and all-events scratch bowling during the latter contest.



FOR CHARITY—In photo at left Charles Phillipps (center), Con-Trib-Club committee member at Cape Canaveral, hands out checks totaling $8,000 to representatives of four Brevard County (Fla.) hospitals. In next photo B. A. Kulchin, right, industrial relations chief and Con-Trib chairman at Schilling AFB, presents $500 check to Robert Pocednik, Salina County (Kan.) chairman of American Cancer Society. Center photo: Jack Ghielmetti of Schilling Con-Trib committee makes $1,500 donation to Sister Marcia and Sister Carmella for St. John's Hospital, Salina, Kan. Right center: Nolan Manly, industrial relations chief at Altus AFB, presents $500 Con-Trib check to Mrs. Lloyd English, chairman of American Cancer Society chapter of Jackson County (Okla.). Right photo: Mrs. Martha Warders represents Con-Trib at Schilling AFB in presentation of $1,500 check to A. E. Landon of Asbury Hospital, Salina, Kan., to help finance expansion.



GRADUATION—W. A. Shoemaker, honor man of optical tooling class, receives completion certificate from G. A. Grossaint, GD/Astro chief tool engineer, as other members of apprentice class look on. At left are B. B. Remsbery, instructor, and J. A. Croft, chief of educational services, GD/Astro.

GD/Astro, GD/Convair Apprentices Complete Optical Tool Course

Seventeen participants in GD/Astronautics and GD/Convair apprentice programs last month completed an intensive course of instruction in optical tooling, conducted under joint auspices of GD/Astro and San Diego City College.

A new physio-optical manual prepared by applied manufacturing research (Dept. 290-2) supplied materials for the course, which was taught by B. B. Remsbery of that department.

The 110-hour program carried three units of City College credit and was of one semester duration.

G. A. Grossaint, chief tool engineer, addressed the class and presented certificates of completion to A. A. Carlson, R. A. Golem, D. R. Hoefs, G. M. Hook, J. D. Hughes, W. E. Johnson, J. E. Lawson, D. J. Lightfoot, S. K. Miller, T. A. Nelson, D. E. Prawalsky, R. G. Scharfenburg, W. A. Shoemaker, all of GD/Astro; C. J. Anderson, F. L. Dohm, E. E. Perkins, J. T. Willingham of GD/Convair.

Group Skating In LA Planned

Group skating in the Los Angeles area will be sponsored by the joint ARA-CRA Ice Skating Club.

Making individual transportation arrangements, skaters will spend the morning (9 a.m. to noon) at Glacier Falls, two blocks from Disneyland. Pre-breakfast skating for dancers only is also available there from 7:30 to 9 a.m.

Following lunch en route, afternoon skating has been arranged at Burbank's Pickwick Arena, newest rink in Southern California.

No reservations are required, but to estimate attendance, participants have been asked to contact Bud Davies, ARA commissioner, at tonight's (July 5) club session, or telephone him at Astro ext. 4042.

The ARA-CRA group holds private skating at Iceland, 6055 Lake Murray Blvd., La Mesa, each Thursday at 6:30 p.m.

Garden Clubs Join For Astro Meeting

GD/Convair Garden Club members will join ARA garden group in a joint meeting next Wednesday (July 11), 7:30 p.m., in ARA Clubhouse at the Kearny Mesa site.

All CRA members are urged to be on hand, said E. L. Zimmerman, CRA commissioner, to finalize plans for the coming summer flower show.

Both CRA and ARA clubs will combine to make arrangements for the Dahlia, Fruit and Vegetable Show set for Aug. 12.

No meetings will be held for the GD/Convair group during August and September, Zimmerman reminded.

Designs for Parade Entries Encouraged

General Dynamics employees have been invited to submit entries in the San Diego Junior Chamber of Commerce contest to select a design for the city's 1963 Tournament of Roses parade float.

Contest winner will receive two tickets to both the parade and game in Pasadena, Jan. 1, 1963.

Information and applications are available to San Diego County residents from the Jaycee office, 947 Columbia St. Entry deadline is July 16.

Pistol Teams Vie in Shoot

Two GD/Convair and six GD/Astro sharpshooting teams competed in the annual Industrial Recreation Council Pistol Shoot hosted by the CRA group Sunday (June 24).

No. 1 teams fielded by GD/Convair and GD/Astro stood in third and fourth spots with scores of 1,137 and 1,130. First place was garnered by the NAS Civilian team whose team score of 1,154 garnered the perpetual trophy.

Altogether, 16 teams took part, with others representing County Employees Association Sheriffs, Ryan Aeronautical Co., Rohr Aircraft Corp., and Telco.

Standings of CRA's third-place entry were J. L. Williamson, 285; D. V. Mardis Jr., 283; W. G. Walker, 283; C. A. Hornburg, 286.

Individual scores of the ARA team, in fourth spot, were Roland Schneider, 281; Ralph Sanderlin, 285; Ronnie Legg, 284; Harold Sicard, 280.

SPANISH COURSE INTEREST MOUNTS

Interest continues to mount in the current CRA-ARA "tourist" Spanish course with so many attending that a third class night has had to be added.

Jim Hardison of GD/Convair Dept. 15-0, instructor, said that beginners now can attend classes on Mondays and Tuesdays. Review class is on Wednesday.

A larger room, Room 4, has been set aside in Balboa Park's Conference Bldg. for all sessions. Each class is from 7-9:15 p.m.

Still slides of Mexico City, Xochimilco, Taxco, Acapulco will be shown the week of July 16 so that students can learn to pronounce place names correctly in Spanish. Hardison will describe the highlights and relate history and culture.

Sign-up is now being taken for a trip into Mexico the last two weeks of August. Price of the round trip tour by train from Mexicali to Mexico City and Acapulco will be approximately $350 a person.

Sales Days Listed

Employee sales days at GD/Convair and GD/Astro salvage yards for the next four weeks are:

GD/Convair—July 7, 21.

GD/Astro—July 14, 28.

Yards are open at both Plant 1 and Kearny Mesa site on an alternating Saturday schedule, 8 a.m. until noon.

Ideas Produce $1,000 Windfall

A young man, now with General Dynamics/Electronics, has turned his good ideas into hard cash to the tune of nearly $1,000 over the last year.

Oak H. Elder Jr., 27, has increased his income by $891.30 and saved the company $10,027 by his employee suggestions since June, 1961.

All of his half a dozen approved suggestions, submitted while he was with GD/Convair manufacturing control at Plant 2, eliminate unnecessary operations and double handling of paper work. His awards ranged from $14.30 for one of his first installed suggestions last June to $202.70, partial payment, for one accepted last month.

Elder joined GD/Convair Dept. 6 in 1956. After a couple of years military service, he returned to the company in manufacturing control in 1959. Early this year he joined GD/Electronics, also in manufacturing control, and is carrying on the good work of turning in suggestions for better ways to do a job.

Two Basic Courses Offered First Shift

Enrollment has been extended for one more week to GD/Convair in-plant basic electricity and basic electronics courses

Coordinated by educational services, the summer session courses are open to first-shift people at any General Dynamics facility in the San Diego area.

Basic Electricity is held Mondays and Wednesdays, 4:30-7:30 p.m., in Bldg. 38, adjacent to CRA Clubhouse, Pacific Hwy. Don Munger of Dept. 6 is instructing.

Basic Electronics—Theory and Components is held Tuesdays and Thursdays, also in Bldg. 38, 4:30-7:30 p.m., with E. B. Milner of GD/Electronics, instructor.

Late registration is being taken through educational services offices, ext. 491, Plant 1.

La Jolla Playhouse Discounts Offered

Discount coupons entitling holders to see La Jolla Playhouse performances this season at reduced rates may be obtained at GD/Convair employee services.

The coupons allow a 20 per cent reduction in price of reserved seat tickets when exchanged at box office, Walker-Scott Department Store in La Jolla. They are good for Tuesday, Wednesday, or Thursday evening performances.

Plays still to be presented are "The Miracle Worker," "Write Me a Murder," "Critic's Choice," and "Little Mary Sunshine."

Novice Net Tourney Slated For Morley

Entries in the coming CRA-sponsored novice tennis tourney will be notified this week of their match times, said Pete Beyrer, CRA commissioner.

ARA Commissioner Ben Cendali is assisting with arrangements.

Tourney will be played over the next two weekends (July 7-8, 14-15) at Morley Field, Balboa Park.

Play will include men's singles and doubles, and, tentatively, women's singles. Contestants were limited to those who have not reached finals or semi-finals of a CRA or ARA-sponsored tournament during the year.

Stamp Collectors Take a 'Vacation'

CRA Stamp Club began its usual summer vacation period this month, said Commissioner Jack Benedict.

No meetings will be held this month or next, with regular schedule resuming in September. Meeting nights are first Thursdays of each month in GD/Convair executive dining room, Pacific Hwy.



TOP APPRENTICE—H. W. Meyers, tool manufacturing superintendent, presents plaque to Francis Dohm marking him Outstanding Apprentice for 1962. Others are runners-up, Leo Poat and Ray Parra. Dohm scored highest of GD/Convair fourth-year apprentices in on-job and classroom efforts.

Outstanding Apprentice Honor For 1962 Goes to Francis Dohm

Francis L. Dohm has been tabbed Outstanding Apprentice for 1962 in the fourth annual contest at General Dynamics/Convair.

Dohm, 26, outscored nine other eligible fourth-year apprentices to achieve the best record on the job and in formal classwork.

Runners-up were Leo Poat, electronics apprentice who completed his training last month, and Ray Parra, airframe and powerplant apprentice.

For his outstanding record Dohm received an individual plaque, certificate for $50 worth of tools, and a brief case. His name joins three other winners on the perpetual plaque in educational services offices.

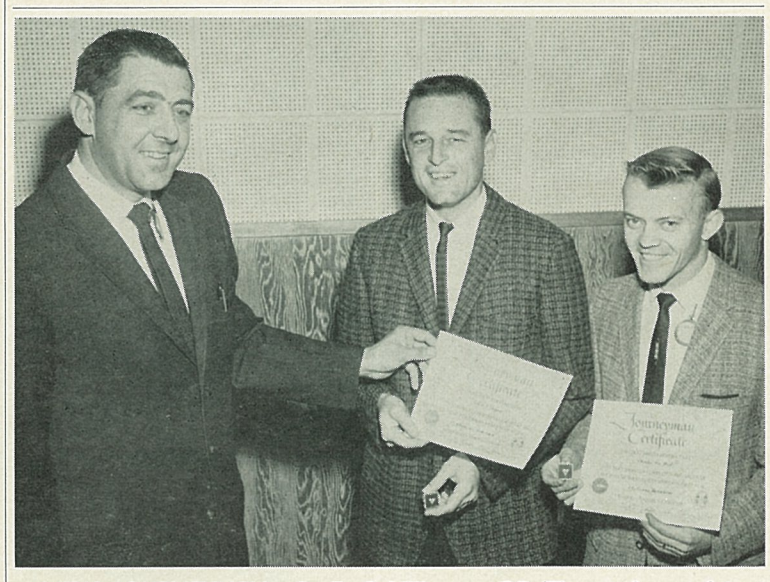
Both Poat and Parra were given copies of "Dynamic America," history of development of General Dynamics Corporation, and brief cases.

Dohm, in his last year of GD/Convair's apprenticeship training as tool and die maker and jig builder, received his Associate in Arts degree from San Diego City College this June, a year ahead of time.

He and the other eligible apprentices were judged on a point system on such factors as quality and quantity of work, attitude on the job, versatility, attendance, school grades, leadership potential, off-the-job achievements. Information was obtained from SD City College, reports submitted through supervisors, and a personal interview.

Judging was done by a subcommittee of the GD/Convair Joint Apprenticeship Committee, appointed by H. W. Rubottom, chairman, and chief of educational services.

This year's judges were L. W. Turner of educational services, chairman; J. F. Young (Dept. 401); K. D. Fawcett, S. D. City College; L. K. Thornbrugh (Dept. 31); L. F. Kruse, GD/Electronics.



NEW JOURNEYMEN—R. F. Schillinger, GD/Electronics assistant manager airborne radar engineering, hands out journeyman's certificates to two electronics apprentices completing GD/Convair program. Robert L. Fagan (center) is assigned to GD/Convair wind tunnels; Leo Poat (right) to GD/Electronics. Both received Associate in Arts degrees from SD City College last month. They will go on for B.S. degrees.

$2 Piece Weighing Four Pounds Among Rare Exhibit Coins

Paul Hamm (Dept. 23) took prizes for his entries of smallest and largest coin at the June 21 meeting of CRA Coin Club members.

A Swedish two-dollar copper piece, weighing four pounds, minted in 1847, and a tiny paper-thin silver India 1-dam coin, worth a little over a cent, were the extremes shown by Hamm.

Other exhibits were John Barrett's collection of U. S. trade dollars, a display of U. S. Lincoln cents belonging to Pearl Johnson, and Harvey Rose's Mexican coins.

A new bid board system was tried with such success that it will replace the traditional chanter during the usual coin auction held each meeting night.

Auction time was shortened by about an hour, said Al Baber, club spokesman.

Now, coins are placed on a peg board and prospective buyers can look over the offerings at their leisure, attaching written bids to the hooks. At the close of the meeting, highest amount takes the coin.

CRA Coin Club members will be manning the information booth in the Gem and Mineral Bldg. at the Southern California Exposition and San Diego County Fair at Del Mar tomorrow (July 6). Several members will be exhibiting individual displays.

Next meeting of the group is set for July 19, 7:30 p.m.



SET FOR PLAY—Crowd of ardent General Dynamics bridge fans caught just before going into action in weekly CRA Bridge Club card battle at Barcelona Hotel. Center foreground is Frank Westphal, club president.

Master Point Play Continues

Seven tables of General Dynamics bridge fans vied in CRA Bridge Club's monthly master points play June 19 at Barcelona Hotel.

East-west winners were Mr. and Mrs. Wayne Evans, first; Mr. and Mrs. Arthur Saastad, second; Mr. and Mrs. R. Rustad, third.

North-south winners were Lucille Donan and Anna Ruhns, first; Mrs. W. B. Grindstaff and William Hines, second; John Donan and W. B. Grindstaff, third.

Summer rates of $1.50 a person for the entire month went into effect this week, said Frank Westphal, club president, who stressed that all General Dynamics people in the San Diego area are eligible to take part in the weekly card play.

Those who prefer to attend occasionally may still participate at the regular weekly charge of 35 cents and $1 for master points nights.

Sessions are held each Tuesday evening, 7:30 p.m., at the Barcelona Hotel, Fourth and Juniper Sts. Information is available from Westphal at ext. 2225, Plant 1.

Radio Hams Operate From Pine Crest

CRA Radio Club members made contact with 132 stations all over the United States, Canada, and as far as the West Indies, during the June 23-24 annual Field Day.

Ten of the amateur radio fans set up and operated the club's station (K6DBS/6) over a 23-hour period, from 1700 on Saturday until 1600 on Sunday, at the CRA Pine Crest recreation area near Julian.

The yearly exercise, sponsored by the American Radio Relay League, demonstrates that amateurs can set up and operate their stations without using electrical power from commercial lines, explained CRA Commissioner Jim Lack. CRA members used a gas-powered generator at the site.

Sports & Recreation

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. until 1 p.m., Clairemont Mesa Flying Site.

BRIDGE CLUB—General Dynamics players invited to Tuesday sessions, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts. Special monthly rates in effect.

CAMERA CLUB — Meeting July 9, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CHESS CLUB — Play each Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

COIN CLUB — Meeting July 19, 7:30 p.m., Convair executive dining room.

DELTA DIVERS—Boat excursion to Coronado Island July 15. Meeting July 17, 7:30 p.m., Convair executive dining room.

FENCING CLUB — Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th & C Sts.

GARDEN CLUB—Joint CRA-ARA meeting July 11, 7:30 p.m., ARA Clubhouse.

GOLF—CRA sweepstakes July 14-15, Circle R course.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO — Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot July 8, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tonight (July 5), 8 p.m., Harbor Drive headquarters.

ROAD RUNNERS — Weekend outing July 20-22 to Hulburd's Grove, Descanso.

SOFTBALL — "Slow pitch" league games next week (July 11), 6:30 and 8:15 p.m., Latter Day Saints fields, 47th and Ocean View Blvd.

SPANISH COURSE — Beginners' classes Mondays and Tuesdays, review class, Wednesdays, 7-9:15 p.m., Room 4, Conference Bldg., Balboa Park.

SQUARE DANCING — Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

STAMP CLUB — Meetings discontinued until September.

SWIMMING — Family swim night July 7, Mission Beach Plunge, 7-9 p.m. Free tickets at employee services.

TENNIS — Novice tennis tourney July 7-8, 14-15, Morley Field courts, Balboa Park.

WATER SKI CLUB — Saturday skiing on phone call basis. Call Jack Loos, ext. 2456, or Gene Sevigny, ext. 2779, Plant 1.

Ride Club Enjoys Trail Trip, Picnic

Some 30 members of the CRA Riding Club enjoyed an all-day outing Saturday (June 23) when Lou and Bruce White entertained the group at their Santee ranch.

A plunge in the Whites' pool cooled the horsemen after a hot trail ride into the Black Mountain area near Lake Murray.

The day was climaxed by a picnic.

Road Runners Vote George Hurley President For Coming Year

George Hurley Jr. (Dept. 16) is new president of CRA Road Runners, GD/Convair trailer group, following results of the June 16 election held during a weekend outing to Lower Otay Lake.

Other officers are Bill Hamilton, vice president; John Simas, treasurer; and Regina Wawrsynski, secretary. Lee Kunkle, Mary Monds, and Ray Devin were elected to the judicial board.

Harry Rush, outgoing president, installed the new slate at the June 21 meeting, CRA Clubhouse, Gillespie Field. A social hour of dancing and refreshments followed.

Twenty-four vehicles traveled to the Otay Lake campsite and 86 members and families turned out for the Saturday evening potluck and celebration of the 25th wedding anniversary of Mr. and Mrs. Melvern Meggison. Fishing, games, square dancing, fireside singing filled the weekend to the brim.

On Sunday morning 19 trailer units trekked to Chula Vista to join the Trailer and Pickup Coach Rally. The rally was sponsored by the City of Chula Vista in cooperation with the Border District Travel Trailer Clubs of America to draw attention to desirability of a permanent trailer site.

Plans call for a recreation area on a portion of city-owned tidelands with overnight spaces for trailers and campsters.

Next outing of the CRA Road Runners will be over the July 20-22 weekend to Hulburd's Grove, Descanso.

Lowell Ward is heading arrangements as wagonmaster. Ed Wawrsynski is assistant wagonmaster.



NEW SLATE—Newly-installed officers for CRA Road Runners are, from left (standing), John Simas, treasurer; Bill Hamilton, vice president; Commissioner Ralph East; George Hurley Jr., president; Harry Rush, past president; (kneeling) Lee Kunkle, Mary Monds, board members; Regina Wawrsynski, secretary; Ray Devin, board member.

Two Pistoleers Keep Top Spots on Team

Two top marksmen of GD/Convair's Pistol Club retained their hold on team spots for the next quarter as CRA's best shots were chosen for competitive matches.

Jim Halfacre (Dept. 140) and Vern Mardis (Dept. 34) will carry on for another three months by virtue of their aggregate scores fired in Short National matches during the last quarter. Halfacre's total score was 812; that of Mardis, 768.

They will be joined by Ralph Picard of GD/Electronics Dept. 6, who totaled 751, and Joe Williamson (Dept. 401-5), 748, to form the new team.

Fathers and Sons Hold Model Flyoff

Fathers and sons of CRA Aeromodelers got together for a fly-off of rubber-powered models on a recent Saturday at the Clairemont Mesa site with Phil Akin taking overall points.

His six-point score for combined endurance and spot landing achievements bettered those of Don Larsen and Jack Finn, who tied for second.

Akin's son, Robert, was winner in endurance events, while Finn's son, Kevin, won best score for spot landings.

Regular flying sessions are held each Saturday and Sunday mornings at the Clairemont Mesa location.

Family Swim Night Saturday at Plunge

Free family swim night for GD/Convair and GD/Electronics people will be this Saturday (July 7) at Mission Beach Plunge, 7-9 p.m.

Tickets now are available at employee services, Bldg. 32, Plant 1.

New "Slow Pitch" League Gets Under Way at SD

Three GD/Convair teams had won both of their opening games as the new plant "slow pitch" softball league went into action in mid-June.

Hi-Lows took both their wins by a one-run margin, nosing out Manufacturing Control Plant 2 9-8 in the June 13 tilt and running neck-to-neck with GD/Electronics Production Control in the June 20 game. A home run by Jerry Krause in the overtime 8th inning gave Hi-Lows the 7-6 tight one.

GD/Convair Electronics snowed GD/E Purchasing 25-2 in first-week league games. They went on, the following week, to defeat Fire Department, 22-15.

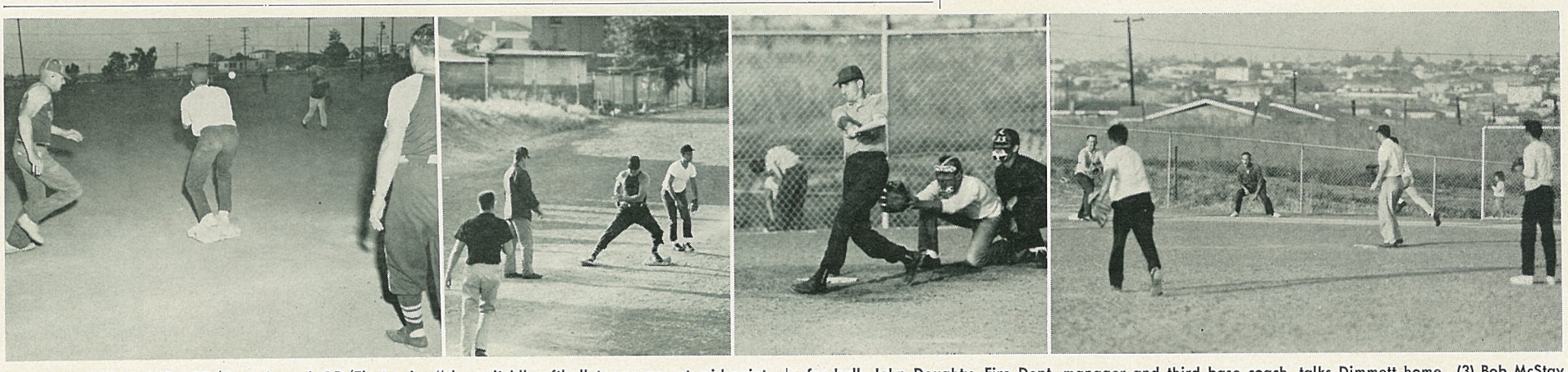
Stores Dispatch Plant 1 beat Accounting, 10-5, on June 13 and the next Wednesday downed Purchasing, 21-11.

Fire Department won its game with GD/E Production Control, 19-14, on June 13. Manufacturing Control Plant 2 barely grabbed a win from Accounting, 17-16, on June 20.

No games were scheduled this week because of the July 4 holiday. Next Wednesday (July 11) game schedule is Manufacturing Control Plant 2 vs. Electronics and Stores and Dispatch Plant 1 vs. Hi-Lows at 6:30 p.m.

GD/E Production Control will play Accounting and Fire Department will meet GD/E Purchasing in 8:15 p.m. games.

All games are played on Latter Day Saints diamonds at 47th St. and Ocean View Blvd.



EVERY BALL A HIT—GD/Convair and GD/Electronics "slow pitch" softball teams are at mid-point in first half of play. From left (1) C. Catledge of Fire Dept. heads for first as Val Valencia, Electronics, tosses out from second; Fred Green, firemen's first base coach, is at far right. (2) Chief Del Dimmett of Fire Dept. rounds bases after hitting home run. Ronny Knudsen of Electronics waits for ball. John Doughty, Fire Dept. manager and third base coach, talks Dimmett home. (3) Bob McStay of GD/E Production Control is up at bat with Dick Pranger of Hi-Lows poised for catch in overtime battle. (4) Willie Jackson of Hi-Lows throws himself into coaching first base as GD/E short stop Ray Gallagher throws to Ernie Frost, first baseman. Pitching for GD/E is Sam Frankel.



FLYBY—F-106s make impressive sight during "Operation Blue Blade" inspection of 456th FIS at Castle AFB, Calif., as they pass overhead. GD/Convair President J. H. Famme was speaker at ceremonies, pointing out continuing need for piloted aircraft.

Dynamics Researcher Foresees Moon Cities

Factories will be operating in cities on the moon by 1980, manufacturing spaceship fuels from lunar raw materials and distributing the products to refueling stations in outer space, a General Dynamics scientist predicted last month.

Dr. Theodore B. Taylor, senior research adviser of General Atomic Division, described "the true age of space exploration" over the next 30 years at the Second Annual Texas Nuclear Science Symposium in Austin, Tex. The symposium is sponsored by the University of Texas and the Texas Atomic Energy Research Foundation, composed of 11 Texas electric power companies.

Dr. Taylor is technical associate director of Project Orion which is being carried on for the Air Force at General Atomic in San Diego, Calif. Project Orion involves the use of controlled nuclear explosions to propel a space vehicle of 1,000 tons or more on manned, long-range missions into outer space.

"A considerably larger scale of activity in space should be predicted for the years between now and the end of the century than has been generally suggested," Dr. Taylor said.

His own expectations, he added, were based "on what we already know about space, on the human urge to explore, and on the propulsion systems that are possible."

"In 1970," Dr. Taylor said, "manned orbital space stations will be permanently occupied and crew rotation will be routine. Man will have landed on the moon and the site of a permanently manned lunar base will have been dedicated. Instrumental probes will have reached Mars and Venus and we will know whether at least elementary life forms exist there.

"No one will have yet landed on Mars in 1970 — unless some major decisions are made in the next two years. But the 'best bets' for deep space transportation will have been recognized and under development for a number of years."

By 1980, lunar factories might employ nuclear power plants to generate electricity. This would be used both to electrolyze the supplies of water believed to exist on the moon — to produce hydrogen and oxygen for use as propellants—and to process other raw materials. Materials will be shipped into space at the rate of one million tons annually, at a cost of about $5 or less per pound.

"Regularly scheduled trips to the moon will carry hundreds of passengers per year," Dr. Taylor forecast. "The moon will have several small 'cities.' Their populations will be busy building and operating astronomical laboratories, and manufacturing space ship propellant from lunar raw materials.

"Mars will have been thoroughly explored and have permanently occupied bases on its surface. The two small Mars satellites, Deimos and Phobos, will be permanent refueling stations and observatories.

"Many spacecraft will have orbited Venus and landing parties will have explored the surface, if the temperature is tolerable. Expeditions also will have landed on the satellites of Jupiter and Saturn.

"In 1990," Dr. Taylor said, "the human race will have explored the solar system in detail and will see itself in a totally new perspective." By then, the nuclear scientist conjectured, the first child will have been born on the moon, and space travel will be commonplace and possible for any reasonably healthy individual.

"Industrial activity related directly to the exploration and the use of space," he suggested, "will probably involve more than $50-billion per year. By the end of this century, the rate of accumulation of new knowledge will be so prodigious that ultimate human responses are now unimaginable."

Dr. Taylor added that his projections depended both on the normal progression of this country's current manned space flight and lunar landing program and on the development of more effective means of transportation in space.

Piloted Craft Need Continues, Says Famme

President J. H. Famme of General Dynamics/Convair praised the Air Force, and especially the 456th Fighter-Interceptor Squadron, Castle AFB, Calif., at the squadron's recent annual inspection.

Speaking during "Operation Blue Blade" ceremonies, Famme said that, in this aerospace age there is still, and will be, a great need for piloted aircraft.

"The Air Force has an awesome responsibility. While we must be on the alert for the spy in the sky, we must look also for the sniper in the banana tree.

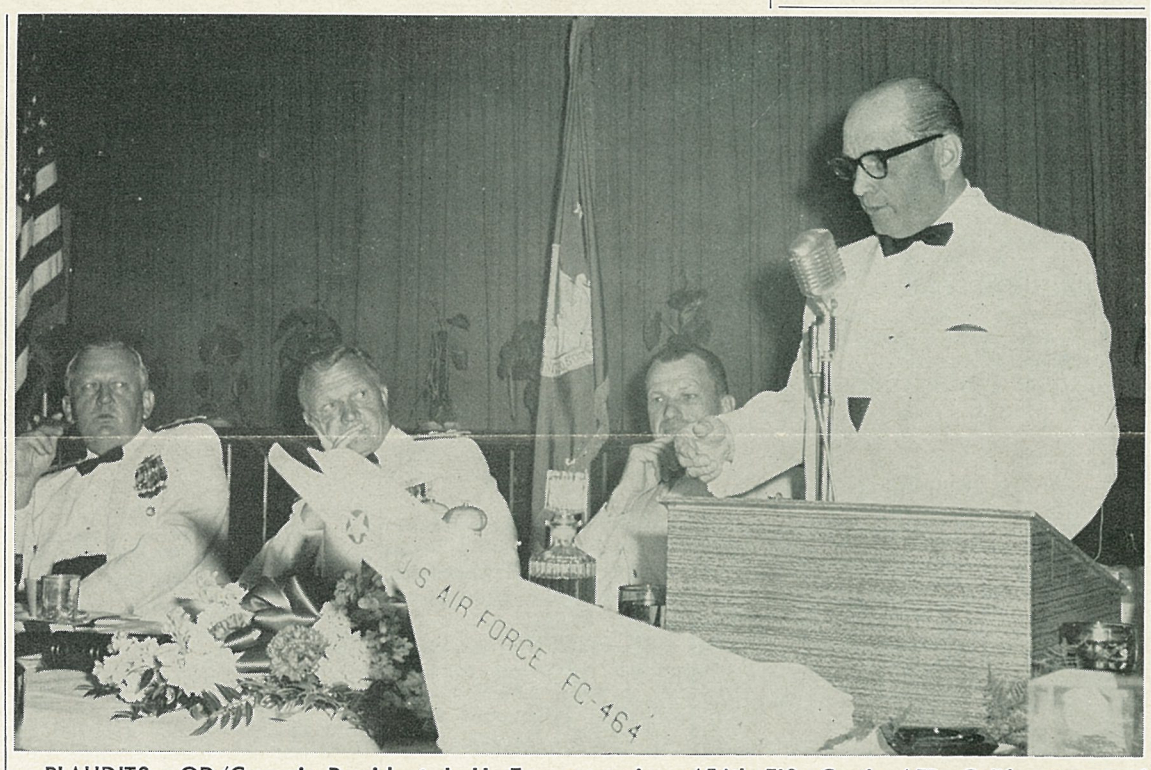
"And, this is why conventional aircraft will continue to be needed."

Inspecting officer, Maj. Gen. Conrad F. Necrason, commander of the 28th Air Division, praised the 456th as the "finest F-106 squadron in the world," because of its accomplishments over the last year. The squadron captured top honors as high-scoring F-106 team in last fall's William Tell weapons meet at Tyndall AFB, Fla.

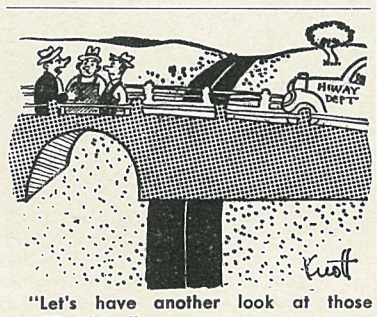
Maj. Wendell J. Smith, assistant operations officer, and M/Sgt. John Muir, flight line supervisor, received Air Force Commendation Medals for work in maintenance at William Tell, operational readiness inspection, and tactical evaluation of the squadron. Lt. Col. James L. Price, squadron commander, was team captain at the weapons meet.

Both Maj. Gen. Necrason and Brig. Gen. Thomas A. McGehee, commander of the San Francisco Air Defense Sector, paid tribute to Lt. Col. Price for the "high and exemplary" degree of efficiency among his units.

The 456th FIS was the first squadron to be declared operationally ready with F-106s which went to the California squadron in the fall of 1959. Supporting the Convair-built craft with the 456th is C. W. Stevens, GD/Convair field service representative.



PLAUDITS—GD/Convair President J. H. Famme praises 456th FIS, Castle AFB, Calif., at annual inspection. Seated from left are Brig. Gen. T. A. McGehee, commander SFADS; Maj. Gen. C. F. Necrason, commander 28th AD; Lt. Col. James L. Price, 456th commander.



"Let's have another look at those specifications."

Programmed Instruction Chapter Organized by GD/Convair Men

First West Coast chapter of the National Society for Programmed Instruction has been formed in San Diego under direction of GD/Convair programmers.

Over half of the charter membership of 42 are from training and publications functions in GD/Convair, GD/Astro, and GD/Electronics. Others represent educational, military, and commercial groups in the San Diego area.

Pro tempore slate of officers named at the June 14 organization meeting is all from GD/Convair—J. D. Meacham (Dept. 16-1), president; P. H. Selby (Dept. 48-95), production flight training, vice president; C. M. Keys (Dept. 16-1), secretary; and M. M. Monroe, also of Dept. 16-1, treasurer.

The national organization, formed early this year, is designed to bring together people interested in various facets of the new field of programmed instruction; to collect, develop, and disseminate information concerning programming, machines, application, development, and administration.

First chapter was established at Amarillo, Texas, and the next in New York City. The San Diego group is the third in the nation and first in the west.

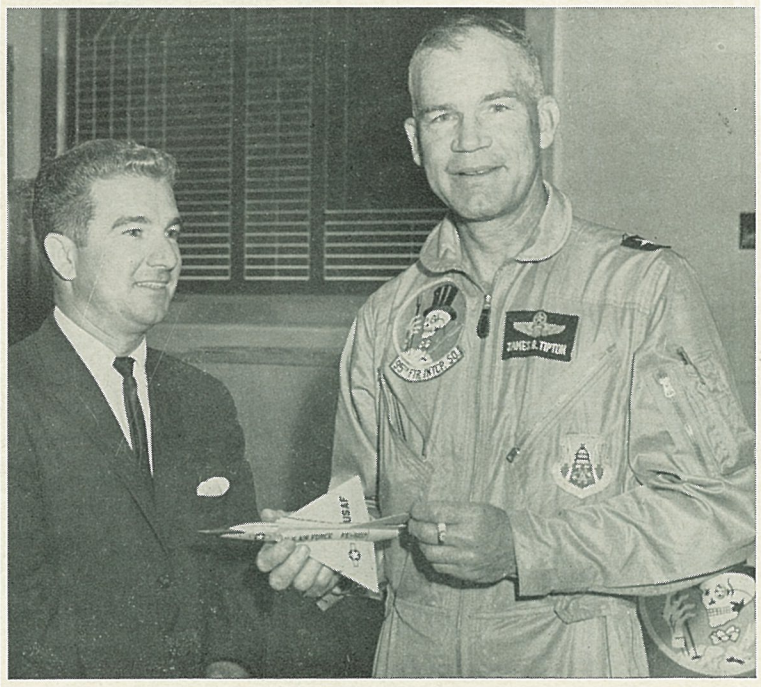
A regular monthly schedule of meetings will be established to keep members up to date on activity in the programming field. Nomination of permanent officers will be in September with election the following month.

Next meeting will be July 26 in the Convair executive dining room, Pacific Hwy.

Sr. Engineers Earn Master's Degrees

Two GD/Fort Worth engineers received master's degrees in mechanical engineering recently under the SMU Graduate Program.

They were R. A. Heath, senior structures engineer loads group, and T. S. Love, senior test engineer.



JOINS MACH 2 CLUB—Brig. Gen. J. B. Tipton, commander Washington Air Defense Sector, receives F-106B desk model and Mach 2 credentials after flight in F-106 from F. H. Weaver, GD/Convair field service rep, at 95th FIS, Andrews AFB, Washington, D.C.—USAF Photo.

Rex Warden Named To GD/Pomona Post

Rex W. Warden Jr., former head of the Colorado Springs office and most recently Corporate director of government relations, has been appointed assistant to the vice president-plans and programs at General Dynamics/Pomona.



Rex Warden

Warden, an Air Force flyer and Korean veteran, joined the company in 1954 and was chief pilot at the Palmdale facility before going to Colorado Springs.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 15 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, July 18, 1962

Applications Available For Blood Credits

Nearly 200 blood donors at GD/Convair and GD/Electronics established credit for themselves and their families at the final bloodmobile visit within the San Diego plant.

All of the 192 who gave a pint of blood at the June 28 collection will be credited individually at the San Diego Blood Bank under its new membership service. One pint entitles the donor to any amount of blood he needs, without cost, for a two-year period, or one year for the entire family.

The advance sign-up was one of the largest in recent experience, Ken Wulfemeyer of employee services reported. Originally, 307 from GD/Convair and GD/Electronics facilities signified their intention to donate. However, over 100 were rejected because of colds and for other reasons.

With the establishment of the new San Diego Blood Bank plan, no more bloodmobile collections will be held at GD/Convair, J. K. Field, chief of employee services, said.

Every employee is urged to take advantage of the service to protect himself and his family, either by donating blood or paying membership fees. Family membership for one year is $4; individual membership, $2.

Application forms can be picked up at employee services, Bldg. 32, Plant 1. They must be forwarded, with correct amount, by each applicant to San Diego Blood Bank, 3405 Fourth Ave.

Those who prefer to donate blood can make arrangements directly with the Blood Bank.

Charger Game Will Benefit Tri-Hospital

Tickets for the Aug. 11 San Diego Chargers vs. Dallas Texans game will go on sale Monday (July 23) at both GD/Astronautics and GD/Convair employee services and at outlets at Sycamore, Plant 2, Rose Canyon and GD/Electronics' Hancock St. facility.

Sponsored by the San Diego Union and Evening Tribune, the game will be a benefit for the Tri-Hospital Building Fund to which General Dynamics employees in the San Diego area have been contributors for the last three years.

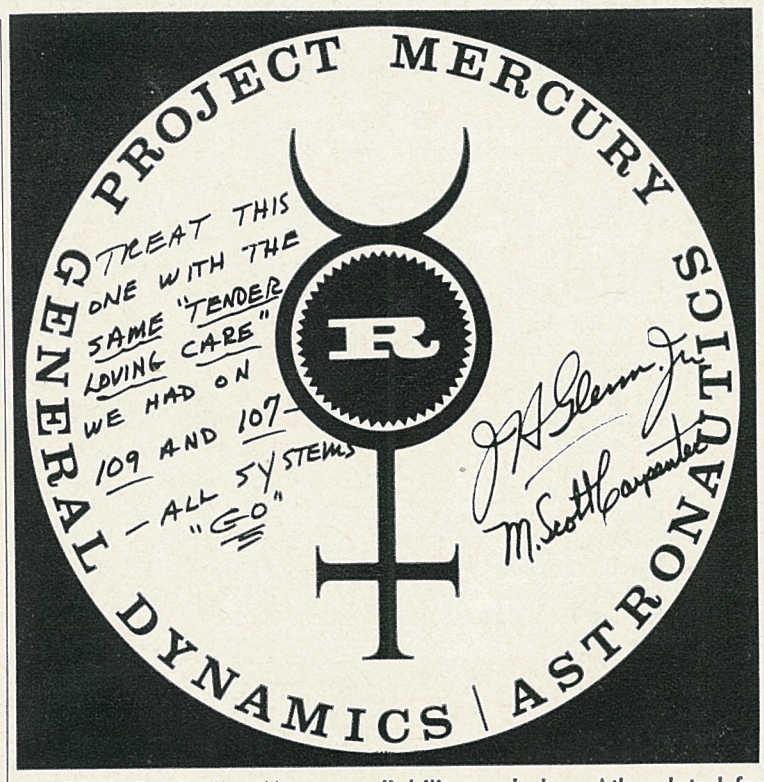
R. H. Biron, Dynamics vice president and a solicitation leader in the original Tri-Hospital campaign, said he hoped the game would raise more than $35,000 for the fund.

Tickets are priced at $5 and $3.50 for reserved seats, $2.50 for general admission, and 75 cents for children.

Biron said that a report will be forthcoming soon on the total amounts that Dynamics employees have contributed to Tri-Hospital thus far, making possible construction recently completed at Sharp, that now under way at Scripps, and additions scheduled to start next year at Mercy.

American Services FAA 880-M Engines

American Airlines Tulsa Maintenance Base has been awarded a Federal Aviation Agency contract to overhaul the General Electric CJ-805-3B engines used on FAA's Convair 880-M.



POPULAR—Project Mercury reliability symbol on Atlas slated for next man-in-space launch was autographed by Astronauts Glenn and Carpenter on recent visit to GD/Astro plant. Reproduced for bulletin board display, symbols proved overly popular; disappeared as fast as they were put up.

Engineering Sales Team Organized

A group of "salesmen," handpicked to spread the word of General Dynamics/Convair's engineering capabilities, is in training before going on the road.

Two dozen engineers, selected to act as business representatives for the division, will be briefed in two-week sessions before the end of this month.

Coordinated by educational services, the training stresses analysis of engineering capabilities, communication of ideas, methods of presentation.

C. S. Brandt, chief of engineering business acquisition, explained, "The purpose of the engineering business representative training is to establish a new cadre of engineering personnel to represent GD/Convair in exploiting new business potentials."

First group, completing initial training the first of this week, were W. J. Darracq, Frank Dreschler, H. W. Dvorak, B. R. Hatcher, D. N. Kahler, V. O. Kettler, H. W. Millard, W. E. Service, G. R. Theilacker, P. F. White, J. D. Rittweger.

Twelve other engineers, all well-informed in their particular fields, will be in the second session which ends July 30.

W. F. Weidenfeller of educational services is coordinator and instructor with supplementary lectures by Brandt and J. J. Beckman of new projects engineering.

GD/Convair Reps Assigned to NASA Bases To Keep Informed on Upcoming Projects

Contact men to keep General Dynamics/Convair informed on projects originating from National Aeronautics and Space Administration have been assigned to Alabama and Texas headquarters.

Four GD/Convair engineering and marketing experts now represent the division at NASA's Marshall Space Flight Center, Huntsville, Ala., and Man Space Center at Houston, Texas. They will be rotated in two-week cycles with at least one man at each base throughout the rest of the year.

J. J. Beckman of engineering and K. S. Coward of marketing are alternating at the Houston base while J. T. Radecki and R. H. Boggs, both of GD/Convair engineering, assume the Huntsville assignment. Those at Huntsville also maintain contact with the Army Ordnance and Missile Command as well as with NASA.

Their main responsibility is to present the division's capabilities in the aerospace field to engineering personnel and to develop potential business contacts. They draw upon specialists from GD/Convair at any time specific information needs to be developed in detail.

Delta Due to Receive Last 880 Jet This Month to Complete Convair Fleet

Delta Air Lines was due to take delivery on the last of its fleet of Convair 880s some time this week.

Flight crews from the Georgia-based airline flew two of the last four Delta planes from the General Dynamics/Convair plant last week and accepted the first of the final order on July 3.

Delta, first airline to receive a Convair 880, will have 16 of the Convair jetliners in service when the present four go on scheduled runs. First 880, the "Delta Queen," went to Delta in February of 1960 and was put into passenger service on May 15 of that year.

On its maiden Delta flight, the 880 streaked from San Diego to Miami, a distance of 2,359 miles in 3 hours, 31 minutes and 54 seconds. Inaugural 880 service connected Atlanta with New York, New Orleans and New York, Houston and New York.

In the last two years the airline has extended 880 service across the United States to the West Coast. It completed its first year of service over the southern

(Continued on Page 2)

Famme Outlines Possible Business

Modification of jet 990s for American Airlines definitely will be performed by General Dynamics Convair, at San Diego, J. H. Famme, GD/Convair president told a meeting of supervisors last week.

"This work will be in the factory for another 12 months," he predicted.

The announcement climaxed a review of present business and of business possibilities.

Regarding C-141 empennage, "we are gearing for more than 100 ship sets and the total could approach 300."

In reference to SATS MATS: "We have a contract for one landing field of this matting, plus study funds. We already have started checking out special machinery for the automated production line."

Regarding Little Joe II: "This program is for five vehicles for suborbital testing of the Apollo program . . . There could be a requirement for nearly 40 of these. Incidentally, Little Joe II, with the Apollo capsule, compares in physical size with Atlas!"

In addition to GD/Convair's space effort, of which Little Joe II is a forerunner, Famme mentioned three aircraft possibilities, but cautioned that these "are down the road a ways."

The division is studying an assault transport; a seaplane ("Convair has a unique capability here"); and GETOL versions (Ground Takeoff and Landing, GD/NEWS June 20, 1962.)

"Both the Navy and Army are interested in GETOL and we think we have an important head start here," Famme added.

Famme's review of a year of jet transport developments, during which despite innumerable handicaps and frustrations the "cost to complete" estimates were

(Continued on Page 6)

Morris Joins Electronics

Thomas E. Morris, 20-year veteran with General Dynamics/Convair, has transferred to GD/Electronics division as manager of material operations.

In his new post Morris will be in charge of inventory control and stores, reporting to L. A. Wood, GD/Electronics manager of material.

A native of San Diego, Morris joined GD/Convair in tooling in 1940. Except for three years' service in the U.S. Army during World War II, he had been with the division, in material and manufacturing control, throughout the years since.

He moved up the ladder from stock clerk, process follow-up man, material analyst, assistant foreman, foreman, to manufacturing control general foreman at Plant 2 early last year.

Value Study Forecasts Savings Of $250,000 by Paper Work Cut

Nearly $250,000 in potential savings might be realized at General Dynamics/Convair by streamlining paper work within the division, according to reports of a value control seminar attacking overhead costs.

One project has already been put into effect, under direction of A. A. Vernon, timekeeping general supervisor, to save the division $5,718.12 a year. Through a revision of procedures for reporting time worked by employees, one form, daily performance report, has been eliminated entirely.

During the next couple of weeks all suggestions coming out of the seminar will be reviewed by departments involved to plot direct action, said R. M. Hatcher, director of industrial engineering.

The seminar, running from

(Continued on Page 2)





PAPER "FLOW"—Mary McNeil, secretary, shows F. H. McLaughlin (left), factory manager, and R. M. Hatcher, director of industrial engineering, some of unnecessary forms to be discarded in cut of overhead costs. Below are members of recent value control seminar who reviewed division methods.



QUICK QUENCH—Helicopter-crash truck team puts out 2,000-gallon jet fuel blaze in matter of seconds at Lindbergh Field.





GD/Convair Fire Chief D. D. Dimmitt, in protective suit, signals helicopter to withdraw so crash truck can move in.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due during the period July 16 through July 31.

Thirty-five year: Dept. 91-0, C. N. Crocker.

Twenty-year: Dept. 3-8, V. L. Summitt; Dept. 6, H. E. Brooke, W. D. Carrier Jr.; Dept. 21-0, B. R. Hisaw; Dept. 48-95, A. F. Steck; Dept. 140, C. G. Rojas; Dept. 171, E. M. P. Becker, J. D. Herndon, C. L. Nored Jr.; Dept. 400-1, N. A. Robinson; Dept. 401-5, H. M. Prior.

Fifteen-year: Dept. 101, D. J. Colesanto, Wanda H. Holmes; Dept. 119, M. D. Smith; Dept. 133, D. G. O'Neal; Dept. 215, J. S. Gerock Jr.; Dept. 216, Anna C. Abromowitz, Pauline E. Anderson, W. B. Paine, Dolly A. Sankovich, Helen H. Sharp; Dept. 401, Jerry Popp, D. H. Smith.

Ten-year: Dept. 6, R. S. Constantino, Olga M. Papike, M. D. Perkins; Dept. 24-4, W. H. Skoglund; Dept. 25, Angelo Masiero, T. J. Piraino; Dept. 29, R. L. McClendon, Dorothy M. Scannell; Dept. 44-5, Frank Cicalo; Dept. 48-11, M. V. Brooks; Dept. 115, R. C. Hester, R. E. Loper, N. L. Valentino; Dept. 192, C. W. Hartman, B. L. Patterson; Dept. 292-0, Alma P. Mokres; Dept. 400, Dorothy M. Dupras, Wilma S. Jenkins; Dept. 401-4, W. C. Kaiser, W. F. Maust, L. V. Millard.

GD/ELECTRONICS

Twenty-year: Dept. 3-5250, J. C. Marries Jr.; Dept. 5-5410, M. M. Reeder.

Fifteen-year: Dept. 3-5250, Dorothy H. Maxfield; Dept. 6-5109, C. W. Osborn.

Ten-year: Dept. 3-5250, Jerrine B. Buck; Dept. 6, H. K. Hollenbeck, Peconnia Thomas, H. G. Tunks; Dept. 7-5155, W. T. Robnett.

Retirements

CONVAIR

BECK—Herman H., Dept. 215. Seniority date June 28, 1956, retirement effective June 29, 1962.

BOWDEN—Reece E., Dept. 31. Seniority date March 27, 1953, retirement effective June 21, 1962.

KRAUSE—Arthur, Dept. 215. Seniority date July 7, 1949, retirement effective June 29, 1962.

LARISON—Leon, Dept. 34-1. Seniority date Dec. 20, 1950, retirement effective July 9, 1962.

LESSLE—Frank P., Dept. 144. Seniority date March 14, 1947, retirement effective April 11, 1962.

WIMER—William B., Dept. 190-7. Seniority date Dec. 14, 1936, retirement effective June 29, 1962.

Personals

CONVAIR

We wish to acknowledge with sincere thanks the kind and thoughtful expressions of sympathy by Convair friends. We deeply appreciate all you have done for us.

* * *

Mrs. Clara Waters and family.

My grateful appreciation to Convair friends for the expressions of sympathy received at the death of my brother, Dudley Swindall (Dept. 21).

Dorothy Phillips, Dept. 15.

GD/ELECTRONICS

I would like to express my deepest appreciation for the thoughtfulness of my fellow employees in the recent death of my mother.

Albert Munn, Dept. 8, GD/E.

Deaths

CONVAIR

DES ROSIERS—Arthur E., Dept. 215. Killed in traffic accident, July 1. Survived by wife, Ruth; son, Dennis; mother, brother, four sisters.

SWINDALL—Dudley F., Dept. 21-2. Killed in traffic accident, July 4. Survived by wife, Sharon; two daughters, mother, two brothers, four sisters.

TERPENING — Frances, Dept. 43-5. Died July 9. Survived by brother, Neil R. Terpening; two sisters, Mrs. Florence Danniels and Mrs. Myrtle Clinton.

Promotions

CONVAIR

Promotions to or within supervision effective July 2.

Dept. 6, Engineering: To specification group engineer, E. Fitzsimons. To aerodynamics group engineer, W. D. Reeder.

Dept. 27-1, Data Processing: To data systems and programming supervisor, B. V. Allen.

Dept. 35-0, Subcontract Administration: To subcontract administration supervisor, E. F. Carle.

GD/ELECTRONICS

Dept. 5, Engineering: To engineering service supervisor, O. D. Robertson.

Rider-Driver

RIDE WANTED—8 a.m. (or earlier) to 4:30 p.m., from Vista to Plant 1. C. A. Leidlich, home phone PA-4-7779 or plant ext. 2626.

Delta Delivery Due This Week

(Continued from Page 1)

transcontinental route in mid-June, connecting Los Angeles and Orlando, Fla., by way of Dallas.

In December of last year Delta inaugurated first direct jet service from California to Montego Bay, Jamaica, and Caracas, Venezuela. In May of this year it added one-stop jet service from Los Angeles to San Juan, Puerto Rico.

This month Delta Air Lines filed application with the Civil Aeronautics Board for permission to serve Huntsville, Ala., on the southern route to provide direct air transportation to military, government, and industrial personnel traveling between NASA's Huntsville headquarters and missile launching sites on each coast.

Water Skiers Skim Mission Bay Waters

Water skiers at GD/Convair and GD/Electronics are taking to the waters of Mission Bay on a regular schedule as temperatures climb.

Members of the CRA group will gather each Saturday morning for skiing off Santa Clara Point between 8 and 11 a.m., said Commissioner Gene Sevigny.

Beginners who want to try the exhilarating sport are urged to turn out any Saturday morning. The club provides its own inboard motor boat for towing, has skis and equipment on hand, and will give instruction at any time, said Sevigny.

He may be reached on ext. 1657, Plant 1, for information.

General Dynamics NEWS

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GD/Electronics (San Diego) news contact: Betty Freeby, CY-8-4641, ext. 1377, Plant 1, Bldg. 51.

Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: James Combs Jr., editor; Carol Sowers. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

* * *

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Whirlybird Demonstrates Value In Control of Wide-Spread Fires

Hovering helicopters may be a stop-gap that will save lives in jet transport blazes, results of experiments now winding up at General Dynamics/Convair indicate.

The division's fire department and the U. S. Coast Guard have been working out routines which would use helicopters to beat back flames in off-runway crash fires for a few precious seconds until regular fire equipment could be rushed to the scene.

Although whirly-birds have been drawn into fire-fighting cordons for smaller types of fires, this is probably the first attempt to see how much effect they would have in widespread blazes, said Chief D. D. Dimmitt.

Flames leaping 250 feet in the air from a 2,000-gal. jet fuel spill were beat down to five or 10 feet from the blast of the helicopter's rotary blades. A blaze over a circular area from 165 to 180 ft. across was controlled for as long as a couple of minutes—until the crash truck could take over.

Actually, a helicopter could control flames around a large fuselage indefinitely, explained Dimmitt, but would cause more harm than good after fire fighting equipment went into action. Blast from the rotors breaks the stream of spray from the crash truck nozzle and destroys the foam blanket dousing the flame.

The helicopter's main chore is getting to the fire fast and first, especially in crashes on rough terrain or inaccessible areas. Flying toward the nose of the crashed plane, it can blow flames back and away from the fuselage, lengthening period of grace for passengers. It takes three or four minutes for heat from a fuel fire to penetrate the craft's skin.

Often the helicopter's whirling blades can open a relatively clear passage through the fire either forward or aft along the fuselage body so that occupants could make a run for clear ground.

"In fact, we found that we could walk into the middle of the burning area in our shirt sleeves if we stayed under the helicopter blast," Dimmitt said.

Before the series of 14 test runs is concluded, such elements as altitude for most effective wind blast control, best speed for helicopter approach, and proper angle of tilt will be resolved.

Frank Merritt, manager of industrial security, who was responsible for the current experiments, said that interest in the program has been expressed by various branches of the military service and municipal fire departments. Several Navy and Coast Guard officials have been on the spot to observe test runs during the last few weeks.

Value Study Forecasts Savings Of $250,000 by Paper Work Cut

(Continued from Page 1)

June 28 through July 6, was arranged specifically for a look at the division's volume and flow of paper work. Spearheaded by Hatcher and F. H. McLaughlin, factory manager, forms used in production areas and handled and maintained by systems and procedures, methods, estimating, were thrown into the value control hopper.

All of the seven teams examined division methods and amount of paper work and time involved in setting alterations and moves into motion, forecasting manpower, expediting planning release system, maintaining operational status and personnel reports.

In some cases, investigation showed that reporting was duplicated by different functions, and in others, that some reports were no longer necessary or could be revised to reduce costs.

Only one team examined a hardware item, in review of tool storage boxes used to protect tool gages from damage during transit and in outside storage. It came up with a proposal for a less expensive type of waterproofed box to cut the construction cost by at least a third and completely eliminate maintenance.

Team members went directly into the shop to consult clerks handling flow of paper and others intimately connected with procedures to arrive at accurate estimates of time involved and whether each piece of paper is necessary for efficient production reporting.

Coordinating the seminar were G. J. Bartolomei of industrial engineering, William Lavis, representing production, and W. H. Goggin of educational services.

Projects, team members and department numbers were:

Team No. 1—Material for Tool Storage Crates: A. H. Damarus (25), G. S. Durland (48), L. R. House (171), J. F. Ryan (29), R. W. Talmadge (119). Project leader, J. R. Benedict (140).

Team No. 2 — Alteration and Move Plans: C. F. Gourley (24), R. B. Grimes (204), B. J. Handwerker (23), H. A. Mohr (101), J. J. Ringler (29). Project leader, B. L. Wolfe (223).

Team No. 3—Planning Release System: R. E. Elo (140), M. M. Hill (400), J. A. Stevens (23), D. R. Wilson (129), M. E. Wilson (29). Project leader, B. A. Clemmens (31).

Team No. 4—Manning Tables: F. J. Hammack (133), J. B. Mayer (218), A. Medrano (23), J. E. Rogers (22), R. L. Weide (215). Project leader, R. J. Haney (23).

Team No. 5—Major & Final Assembly Operational Status Report: W. S. Dold (28), C. W. Owen (48), G. H. Parker (171), J. P. Strachan (140). Project leader, C. L. Pogorel (23).

Team No. 6 — Hourly Payroll Time Card, Labor Distribution & Performance Report: G. E. Armstrong (119), F. S. Bender (31), S. T. Krebs (115), W. I. Miller (29), A. A. Vernon (91). Project leader, J. W. Woodhouse (23).

Team No. 7 — Hourly Clock Cards, Weekly Personnel Report: V. C. Breit (133), T. Castro (31), F. H. Jensen (28), K. A. Kerr (27), K. R. Meli (23). Project leader, C. W. Twohey (28).

Landing Gear Fatigue Study Centers at SD

Anodic coatings for F-102 landing gear struts will be evaluated in General Dynamics/Convair laboratories under an Air Force contract.

The contract, amounting to about $25,000, was awarded by Ogden Air Material Area, Hill AFB, Utah.

Qualification testing will be conducted at structures lab facilities under direction of C. W. Alesch, design specialist, as program leader.

C. R. Smith, structures design specialist responsible for the proposal which resulted in the contract, will serve as principal investigator during the task. Final report is due in four months.

Fatigue life comparisons will be made with uncoated, uncorroded, coated, corroded tubes, in different combinations. The tubes take the place of actual struts. These comparisons will indicate optimum method and thickness of coating to achieve best compromise between anodic coating thickness and corrosion protection it affords in terms of fatigue life, explained Smith.

Rivet Reduction Saves Manhours

A saving of 4,740 manhours by the simple idea of eliminating every other rivet on the upper surface of Convair jet transport leading edges was revealed in a Resources Economics analysis last week.

Through the efforts of Claude Bissell, Dept. 133 assistant foreman and long-time expert in leading edge construction, it was found that spacing in the stitch rivet pattern could be lengthened from 5/8-in. to 1¼-in.

The rivet pattern involves no structure-holding strength, but is used to tack inner and outer skin together to direct flow of air in de-icing areas.

Time saved in manual drilling and countersinking holes and driving rivets totaled 4,740 hours for 30 planes. Rivets needed in the total span, about 15 feet, were reduced by 1,225 per plane.

Bissell's suggestion was an outgrowth of "Operation Upbeat," cost reduction program now incorporated in Resources Economics reporting center.

Training Methods On 880s Discussed

P. H. Selby, production flight training supervisor at GD/Convair, represented the division at a gathering of 880 and 880-M operators hosted by Federal Aviation Agency late last month.

Fifteen delegates, all training specialists, from airlines flying the Convair jet transports, General Electric Co., and GD/Convair joined the discussion on 880 training methods at FAA's training center in Oklahoma City, Okla.



FAR EAST ASSIGNMENT—GD/Convair flight men, C. J. Falkenthal (left), flight engineer, and Sherm Johnson, pilot, on several-month duty with Cathay Pacific Airways Ltd., are part of regular crews flying Convair 880-M from Hong Kong to Tokyo, Taipei, Manila, Bangkok, Singapore, Djakarta.—Cathay Pacific photo.

Community Education Program Helps Quiet Sonic Boom Fears

"A jet broke the sound barrier in the Milwaukee area during early morning hours . . . and touched off a flurry of phone calls by frightened residents who thought the area was under attack."

This lead from a story in the Wisconsin State Journal was perhaps typical of headlines caused by SAC's new Mach 2 bomber, the B-58 Hustler, in 1958.

Three years later, "surprisingly few complaints" were registered as FAA and NASA used a B-58 in secret tests to determine boom effects over major populated areas.

And even fewer complaints are now called in by citizens living in B-58-corridor towns, where Hustlers make Mach 2 sorties against Air Force Radar Bombing Sites. For the most part, they've accepted sonic booms as the "sound of freedom."

At least partially responsible for the wide public acceptance is a massive three-year sonic boom education program, carried out by SAC and GD/Fort Worth. Civic and professional leaders from communities throughout B-58 corridors were called together and told all about booms—what caused them and why they had to be run over certain cities.

Result: widespread press and television coverage, which eventually braced people for booms and stripped away the devastating "surprise" element.

In the briefings, Air Force officers carefully pointed out that combat B-58s normally make supersonic sorties at altitudes from 35,000 to 50,000 feet, and in 30-mile wide corridors 300 to 350 miles long. Target cities have included Little Rock, Joplin, San Antonio, Austin, Amarillo, Atlanta, Milwaukee, Laurel (Miss.), Matagorda Island (off the Texas coast), Omaha, Lincoln, St. Louis, and the Minneapolis-St. Paul area.

"The next war, if there is one, will be supersonic. If our airmen are to fight supersonically, they'll have to train by flying supersonically on simulated combat missions," said Loyd Turner, who with his staff member, Mal Halloway, represents GD/Fort Worth at the briefings.

"Most supersonic missions below 35,000 feet are made in a special 20-mile wide corridor over the Gulf of Mexico," Turner explains. "The only harmful effect might be to give a few fishermen a bigger bang out of the sport than they expected."

A "tremendous assist" in telling the sonic boom story is "Tall Man Five-Five," a documentary film narrated by Chet Huntley. The film explains sonic booms as a Hustler moves in for a Mach 2 attack on Deerfield, Mass. General Dynamics made the film, with assistance of the Air Force and General Electric.

Literally millions of people have seen the film on SAC bases, in special showings throughout B-58 corridor cities and towns, and on television.

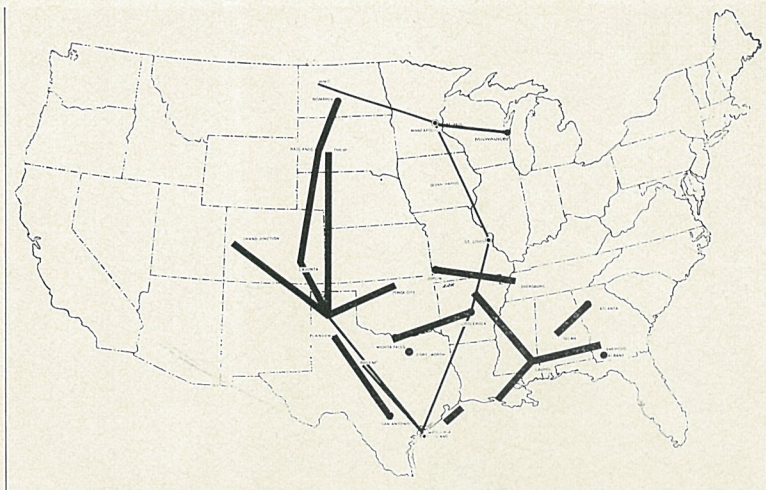
Lending mobile assistance to the sonic boom orientation program was an Air Force van which toured 15 communities in the corridor areas. It used illustrations, charts, brochures and recorded statements to give the cause and effects of booms.

In the briefings, Air Force claims officers stress that a sonic boom cannot cause structural damage to a house or building or injure a person because of the altitudes at which B-58s fly.

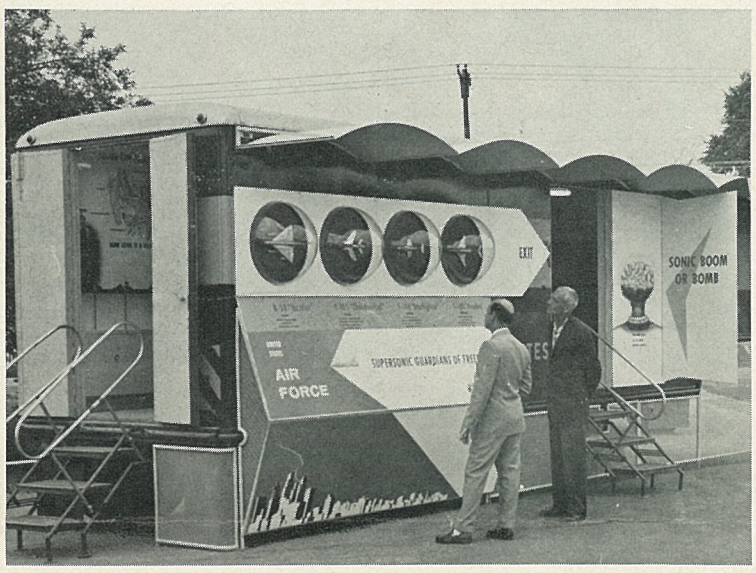
They explain that it takes overpressures of at least 70 pounds per square foot to cause structural damage. Pressure from a sonic boom under normal SAC operations is less than five pounds per square foot. The only way scientists have been able to generate pressures of more than 70 pounds per square foot was under the severest of test conditions, with an aircraft speeding by only 200 feet above a recording device on the ground.

Damage to some plate and window glass, light bric-a-brac, or loosely latched doors, plus some possible aggravation to existing plaster cracks, is about the extent of sonic boom damage, officers explain. Structural damage to foundations or load-bearing walls, they say, is practically impossible.

Easily discredited are claims like these: a man who said a sonic boom caused an earthquake that cracked his swimming pool; a woman who said six of her electrical appliances (eight years old) were ruined; another woman who claimed that she was criminally assaulted by an intruder who allegedly entered a door jarred open by a boom; and the one that booms caused chickens not to lay eggs and eggs not to hatch.



BOOM TOWNS—Black lines indicate B-58 corridors, in which Hustlers make supersonic sorties. Hundreds of civic leaders in various corridors were briefed on booms by GD/Fort Worth and Air Force teams.



PORTABLE STORY-TELLER—Air Force van with illustrations and recordings which told sonic-boom story, toured number of B-58 corridor towns.

Paddled by Mistake Due to Sonic Boom, Boy Earns Apology From Hustler Crew

The story ended happily, but for awhile it appeared that 10-year-old Harry Erickson of near Pittsburgh, Pa., had taken a real beating from sonic booms.

It happened, according to Jim Lucas of Scripps-Howard, when a B-58 Hustler made its record-making, round-trip flight from Los Angeles to New York run, leaving a trail of sonic booms in its wake.

It seems that Harry's father, Herbert Erickson, had forbidden the boy to leap from his bunk and bang his feet on the floor.

When the fast-flying Hustler passed nearly directly over the Erickson household, it left not one, but two distinct booms.

Interpreting the booms as another leap from the bunk, Harry's father paddled the boy, under protest of course.

But when the father learned the true cause of the booms, he quickly penned a note to the Pentagon that someone owed his boy an apology.

The Bendix-Trophy winning B-58 crew — Capts. Robert Sowers, Robert McDonald and John Walton—thought so too.

They wrote Harry a formal apology, enclosing an autographed picture and a B-58 model.

"We had excellent tailwinds all the way," the crew wrote. "We hear you did, too, and we're sorry about that."

NASA Chooses GD/Astronautics to Study Early Manned Planetary Explorations

General Dynamics/Astronautics is one of three firms selected by the National Aeronautics and Space Administration (NASA) to carry out studies of early manned planetary exploration.

Known informally as Empire (early manned planetary-interplanetary round-trip experiments), the studies will last six months. Astronautics will conduct studies of a Mars orbiting mission.

This does not mean that NASA has scheduled manned planetary flights, but is gathering a body of preliminary information for use if and when such a project is established, a release from Marshall Space Flight Center, Huntsville, Ala., indicated.

Studies assume a launch time of the early 1970s and the use of Saturn C-5 and/or Nova launch vehicles employing orbital operations and nuclear propulsion from earth orbit.

Under study are trajectory, weights and conceptual design, propulsion requirements, storage methods for hydrogen in space, life support systems, schedules, long leadtime requirements and funding.

Little League Help Comes Back Double

GD/Astronautics' Steve Losch (Dept. 305-0) boasts of the luck most of us would like to have—he bought three raffle tickets and won first and second prize!

Losch merely wanted to help the Spring Valley Little League raise funds when he purchased the tickets. A drawing held July 4 ended with him winning first prize (a Falcon automobile) and also second prize (an ice chest). Losch promptly returned the second prize.

Construction Proceeds On Newest Commercial Atomic Power Facility

Construction of an electricity producing nuclear power station, prototype of the High Temperature Gas-Cooled Power Reactor system conceived and developed by General Atomic Division, General Dynamics, is progressing rapidly at Peach Bottom, Pa.

It is designed to produce commercial electric power at high temperature steam conditions.

At the 600-acre plant site on the Susquehanna River, Philadelphia Electric Co., which will own and operate the 40,000-kilowatt (electrical) plant, reported site clearing, excavation and grading are virtually completed and the lower shell of the steel containment vessel already is in place.

Peach Bottom will be the first nuclear station to produce commercial electric power at modern steam conditions of 1,000-degree F. temperature and 1,450 pounds pressure.

The Peach Bottom plant also will be the first commercial nuclear power station to demonstrate the use of an all-graphite core and a peak fuel burn-up of 75,000 megawatt days per metric ton of uranium and thorium fuel.

The $24.5-million developmental construction cost of the plant is being borne by Philadelphia Electric and 52 other investor-owned electric power companies located throughout the United States and organized as High Temperature Reactor Development Associates, Inc. The 53 companies comprise the largest group of companies to support a U. S. nuclear power project.

Construction at the Peach Bottom site began late in February under a 27-month construction schedule calling for completion of the plant in mid-1964. The site is nine miles above Philadelphia Electric's hydroelectric station at Conowinge, Md.

The lower shell of the plant's circular steel containment vessel, which will enclose the HTGR reactor and nuclear steam supply system, is in place in the ground and workmen are now erecting a reinforced concrete wall which will separate the containment vessel from the plant's turbine building.

The steel containment vessel, 100 feet in diameter, will rise 135 feet above the ground when completed. The upper part of the vessel will not be erected until the reactor, steam generators and other interior equipment have been installed.

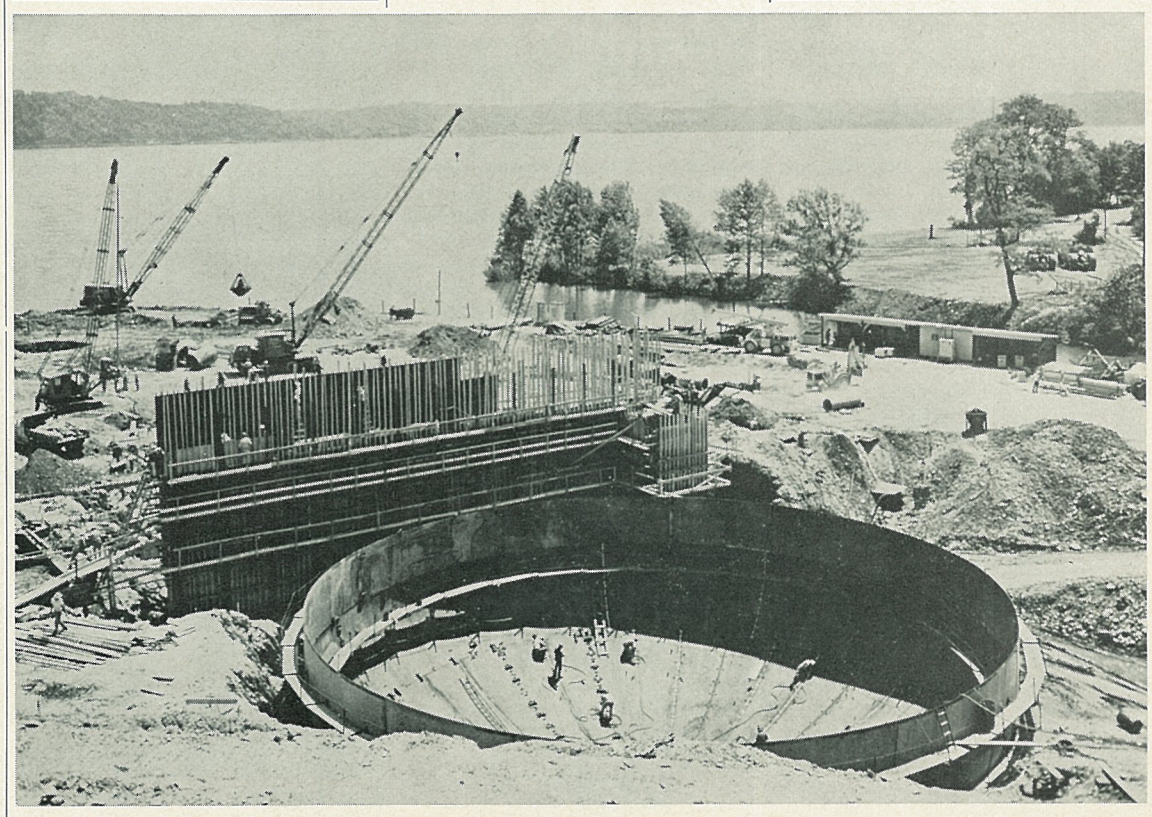
General Atomic is responsible for the nuclear plant. Bechtel Corporation is engineer-constructor.

SAFETY PRACTICES AT GD/ASTRO TOLD

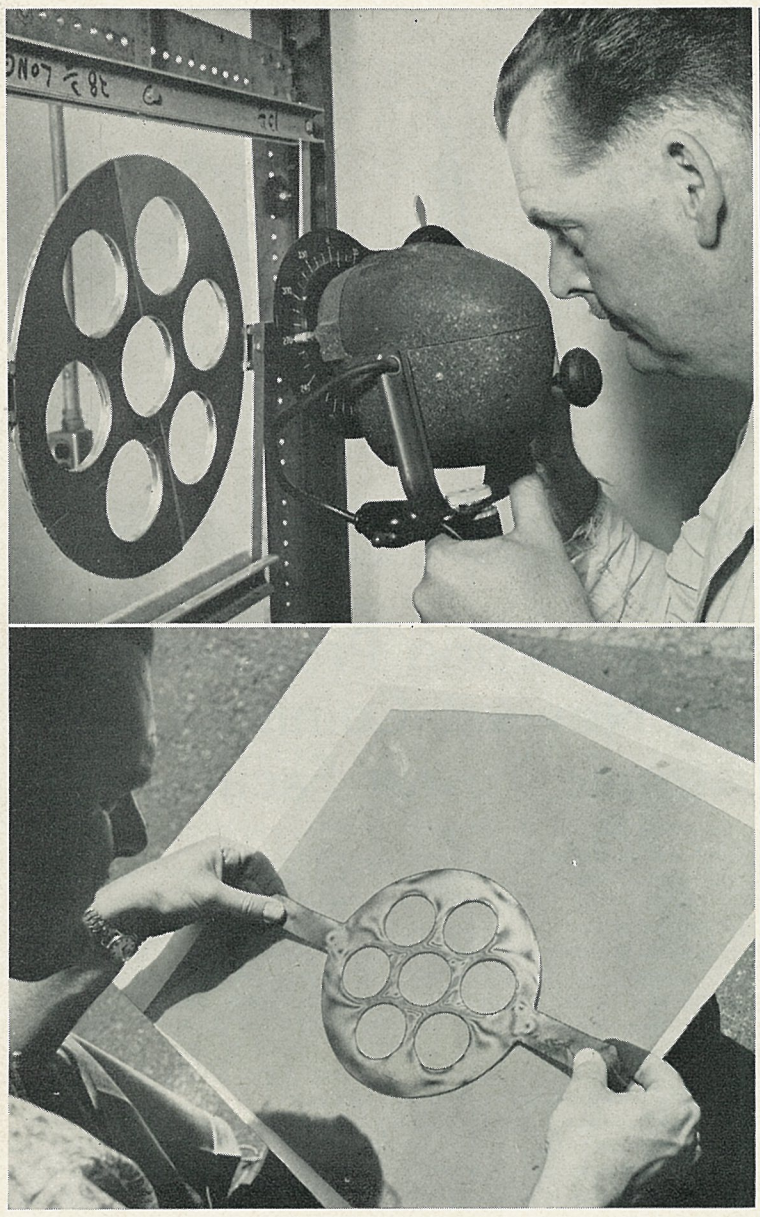
Mortimer Rosenbaum, General Dynamics/Astronautics executive vice president, presented a special talk on safety practices at Astronautics June 27 at a meeting called by the commander of the Ballistic Missile Division.

The one-day affair, held at BSD Headquarters, Inglewood, dealt with safety programs and practices developed by major aerospace industries involved in ballistic missile work for the Air Force. Other top industry officials gave similar reports.

In addition to Rosenbaum, Astronautics was represented by P. M. Prophett, director of base activation, all of Astro's operational base operations managers and J. W. Garrison, chief safety engineer. SATAF commanders from all ballistic missile bases also took part.



WORLD'S FIRST—On banks of Susquehanna River, construction of commercial atomic power station proceeds. Circular containment vessel, 135 feet high, will enclose HTGR reactor and nuclear steam supply system developed by General Atomic Division of General Dynamics.



COLOR TEST—Upper, D. H. Love, GD/Convair structures lab test engineer, peers through photostress meter at 1/10th scale model of Little Joe II bulkhead to measure stress by colors appearing under load. In lower shot, Love bends plastic model to make stress patterns clearly visible through sheet of polaroid.

Midget Little Joe II Bulkhead Put Under 'Rainbow' Stress

Rainbow colors are helping General Dynamics/Convair engineers determine points of stress in components that will go to make up Little Joe II launch vehicles, now under development at GD/Convair.

The miniature aluminum bulkhead, 1/10th scale, is in photostress testing at the GD/Convair fatigue test lab to pinpoint critical high stress points by use of the color process.

As the model, coated with a thin layer of special plastic, is twisted under bending loads, patterns form—either light and dark, or in various colors—indicating strain areas. The colors, when viewed through a photostress meter, are graphed according to known principles of polarized light to measure stress.

"This method of determining critical areas of stress allows us to simulate stiffness and configuration of a component without building an actual part," said Ed Schiff, structures lab assistant group engineer.

A smaller 1/20th scale flat plastic pattern of the bulkhead's surface shape is used as a general demonstration model with colors indicating "fringes," or patterns of stress, clearly visible through a sheet of polaroid.

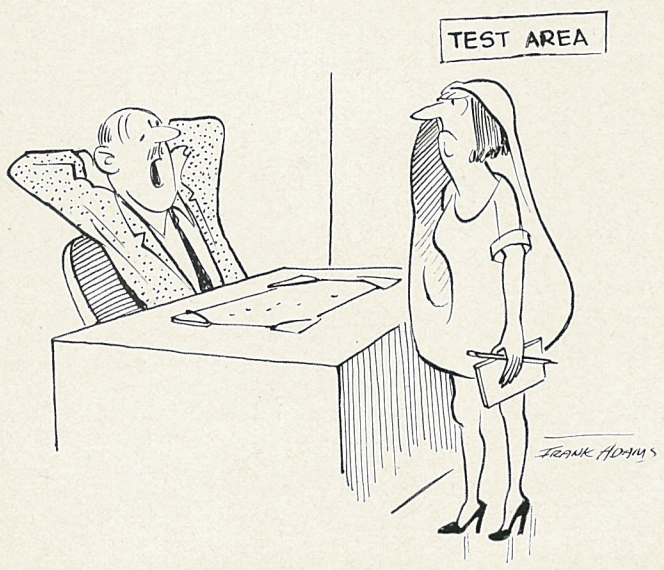
The same testing method has been in use at GD/Fort Worth and GD/Astro the last few years and was applied during fatigue testing of landing gears and skins for Convair's jet transports.

F-102 Landing Gears Face Fatigue Tests

Structures laboratory at General Dynamics/Convair will be cycling F-102 landing gears during the next few weeks to check Air Force required changes.

Under a recent contract from the AF, amounting to $12,651, GD/Convair will fatigue test two of the modified main landing gears destined for installation on Convair-built F-102s in the field.

The program, extending over a couple of months, will fatigue test the gears to failure or 20,000 cycles. Gears, built by Menasco Mfg. Co., Burbank, Calif., were due to arrive at the San Diego laboratory facility the middle of this month.



"Another thing, Miss Christy . . . Let me know immediately the next time that wind tunnel crew starts giving you a rough time!"

GD/Astro Engineering Writer Owns U.S.'s Only (?) Coffee Plantation

A borrowed dream, his wife's encouragement, and an eye for the unusual have combined to make Harold V. Stickel of General Dynamics/Astronautics, owner and operator of what is probably the only U.S. coffee "plantation."

Stickel, an engineering writer in support systems engineering (Dept. 321-2) at Plant 1, has 200 young adult coffee trees and over 5,000 seedlings growing on his hillside property in La Mesa, Calif.

This year's coffee bean output will go for seed, and next year Stickel hopes to place his coffee on the commercial market.

Stickel bought his "plantation" from the estate of the late Nick Wornin, horticulturist and former El Salvador plantation owner, who for ten years dreamed of introducing coffee culture to the United States.

Wornin brought seed stock from his El Salvador plantation and had attempted to raise it in Florida and later in another part of California before succeeding in the La Mesa location.

Upon the death of his friend, Stickel determined to carry on Wornin's dream and purchased the property. His wife, Marie (former GD/Convair Dept. 120 employee) was raised on a coffee plantation still owned by her family in central Mexico, and encouraged the undertaking.

Present producing stock flourishes beneath the high shade of chirimoya trees (a South American tree in itself unusual in this country) on a terraced hillside behind the Stickel home. The three-year-old coffee trees are now about five feet tall and will never grow so high that harvesting cannot be done from the ground.

Coffee berries, each containing two beans, look like dark red cherries and stud the branches in clusters. Berries are picked when ripe, dried in the sun and husked. The beans are then roasted and ground en route to the coffee pot.

Coffee-wise Marie recalled customs of her youth, remarking that plantation owners seldom brew coffee from pure coffee beans.

"My mother often grinds a bit of cinnamon or cocoa with the coffee beans," she said. "Either adds to the flavor."

Of the seedling trees, with which he hopes to expand his coffee growing operation, Stickel has a wealth of information.

"Their culture gave Wornin his greatest headaches," he recalled. "Each bean must be carefully positioned to permit sprouting and planted in an exacting combination of moisture, well conditioned soil and fertilizer.

"Then climate for early growth becomes the critical factor. Wornin chose La Mesa because of its even year-round temperature and similarity to the climate of El Salvador."

And the curious flora of "El Rancho Stickel" surpasses the unique planting of coffee and chirimoya trees (whose fruit, Stickel said, tastes like vanilla ice cream). Marie pointed out miniature banana trees whose fruit is of normal size with unusual sweetness, and several sturdy papaya trees.

"It's quite a place," Stickel chuckled proudly. "Now you take those three pineapple plants over there . . . "



CROP—Mr. and Mrs. H. V. Stickel of GD/Astro examine one of 200 young coffee trees on property in La Mesa, Calif. Coffee fruit looks like dark red cherries, each containing two beans which are dried, roasted, then ground.

GD/E Awarded Battlefield Radar Study

A $100,000 study contract has been awarded General Dynamics/Electronics at San Diego by the U. S. Army Signal Corps at Fort Monmouth, N. J.

During the study, to extend over the next year at least, GD/Electronics engineers will research in development of new techniques for effective employment of radar in battlefield situation.

Project engineer in charge of the studies will be David Proctor of GD/E advanced microwave group, said D. Wahl, GD/E manager of engineering.

The contract was awarded GD/Electronics as an outgrowth of the division's previous studies into developing high resolution techniques for surface radar systems.

Keith Benson Talks For UCLA Seminar

Keith Benson, group engineer at General Dynamics/Pomona, was one of five Southern California engineers invited to address a recent seminar at UCLA.

The seminar, sponsored by the UCLA school of engineering, involved "Information Display Systems." Benson spoke on "System Engineering Methods and Procedures."

"It's All in Books"

Self-Taught Math Instructor Looks Back on 1,200 Students

E. B. Schick, GD/FW Dept. 24-2, is "retiring" this month into a long-postponed second career as school teacher.

The "self-educated" tool designer, a GD/Fort Worth employee since 1945, plans to teach shop math through the vocational program at Technical Institute.

It won't be a new role for Schick, as well over 1,200 present and former GD/Fort Worth employees can testify.

"He's taught this course—involving plain geometry and trigonometry as it relates to designing engineering parts—to at least this many people since he was first 'drafted' for the job in 1948," a former supervisor said.

"He was selected because everyone—his fellow employees, supervision, and engineering—respected his knowledge of math as it related to tool designing."

He was such a good instructor, the supervisor pointed out, that he's had to teach the same course off and on ever since.

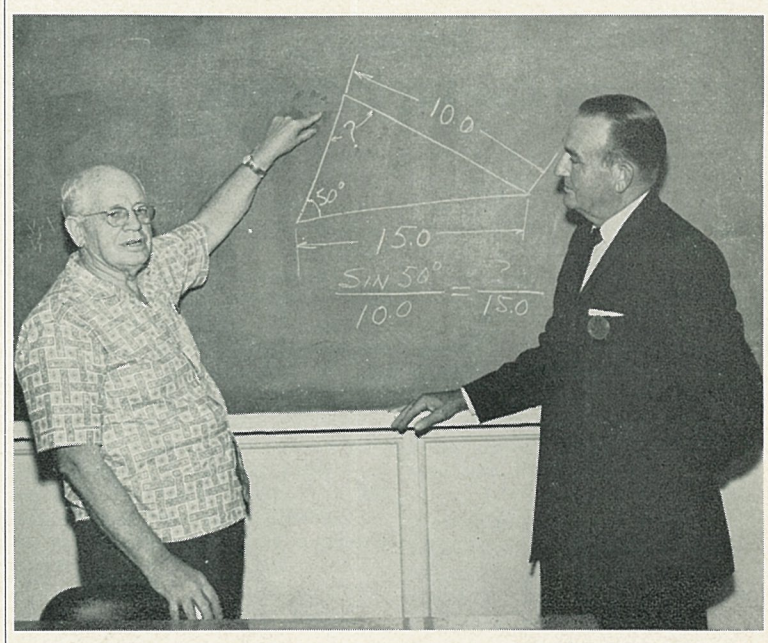
The self-taught Schick is, in a sense, resuming a profession he started in 1915.

"I taught in a little rural school in Georgia," he said. "This included grades one through 11. I also did a little teaching in Tennessee."

Schick was hasty to add that education in rural areas in those days was a pretty informal affair.

How does a self-taught man like Schick—who talks like a college graduate—acquire his knowledge?

"It's all in books," he said. "All you have to do is read."



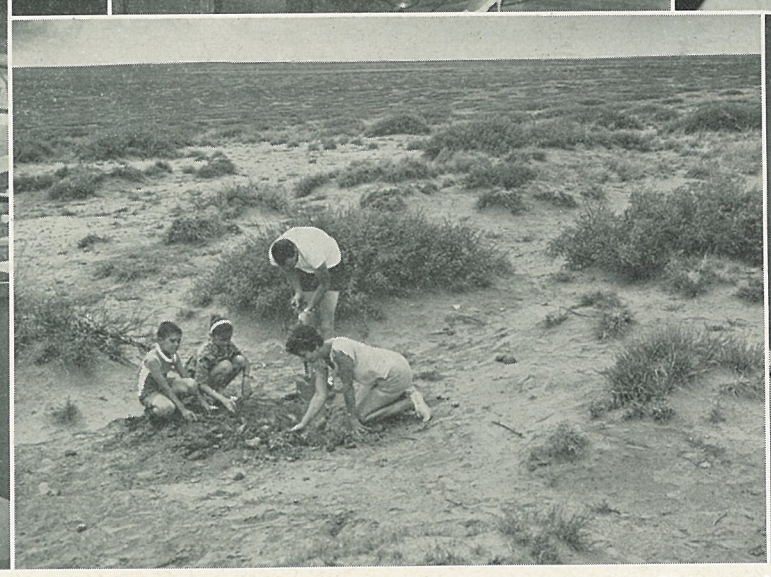
SELF-MADE—E. B. Schick, Dept. 24-2, displays teaching technique—familiar to over 1,200 GD/FW employees—to F. E. Chambers, GD/FW director of industrial relations. Schick plans "second" career of teaching when he retires this month.













ROUNDING THE BASES—Party arranged by GD/Astro Wives Club of Lincoln AFB drew happy throng of 1,000 to Plamor Ballroom in Lincoln, Neb. In top center, Irene Peters, June Strous and Phyllis Walsh engage in skit on feminine view of Atlas base activation. At top left Robert McGraw collects grand prize of tape recorder. Behind him are members of dance committee, Miriam Lundy, Betty Grundstrom and Ernie Mudge, with emcee Bob Verdon at mike. Lower left: J. N. McPheeters, GD/Astro operations manager at Altus AFB, in "native" costume, drops by for chat with Bob Longino, supervisor at Atlas Site 2. Lower center: amateur archaeologists have field day in Walker AFB area where Indian relics abound. John Taylor (Dept. 619-5), wife, Lois, and children, Mark, 7, and Tanja, 10, do some digging. Lower right: L. I. Medlock, right, GD/Astro operations manager at Lincoln AFB, presents $4,280 check from Con-Trib-Club to Willis Johnson, Lincoln Community Chest, and J. C. Angle, United Appeal drive chairman. Astro employees, through Con-Trib, have donated nearly $30,000 in Lincoln-Omaha area during three years of base activation operations. Con-Trib donations at Nebraska base have approached the $10,000-mark during this year alone.

BSD Commander Award Goes to Technician Who Prevented Atlas Loss

LINCOLN AFB — Richard A. Seibert, a General Dynamics/Astronautics technician here, has been awarded the Ballistic Systems Division Commander's Award by order of the commanding general.

The award, a special commendation, recognizes distinguished service performed by Seibert during operations here. It read, in part: "Seibert evaluated an impending emergency in a unique manner and reacted with such swift action that he prevented certain destruction of an Air Force Atlas missile and probable injuries to five fellow employees.

Lt. Col. Hubert E. Miller, deputy SATAF commander here, presented the award on behalf of Maj. Gen. Thomas P. Gerrity, then BSD commander.

The event mentioned ocurred at Offutt AFB when Astro personnel were conducting operations on Atlas complexes there.

General Gerrity's statement added that "Through outstanding judgment and action Mr. Seibert has brought credit upon himself, his company, and the United States Air Force."

Wives 'Splash Party' Held at Schilling

SCHILLING AFB—Straw hats and colorful bathing suits were the costume for 35 members of GD/Astro Wives Club here at a recent "splash party" at the base Officers Club pool.

Light refreshments were served.

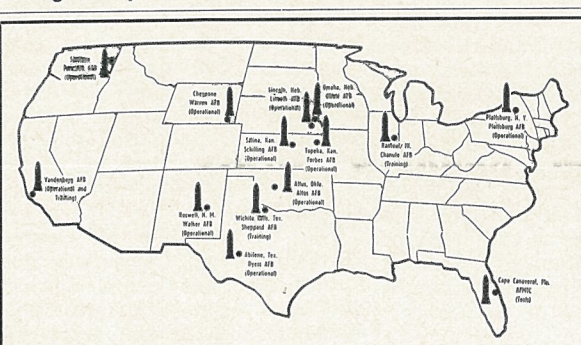
WIFE'S-EYE VIEW OF BASES LIVENS LINCOLN PARTY

LINCOLN AFB—A wife's-eye view of Atlas base activation was featured in skits by Astro Wives Club as intermission entertainment for over 1,000 GD/Astronautics employees attending a company dance here last month.

The event was held in Plamor Ballroom, Lincoln, under joint sponsorship of the Wives Club and GD/Astro supervision, with a Sunday night date enabling both first and second shift employees to attend.

Dancing throughout the evening was climaxed by drawings for a variety of door prizes, with Robert McGraw of support publications winning grand prize of a tape recorder.

Bob Verdon, communication administrator, was master of ceremonies.



OFF-SITE NEWS

AFMTC—R. E. Flanagan, ext. 4011.
ALTUS—Jean Foster, ext. 669.
DYESS—G. D. Higgins III, ext. 8370.
EDWARDS RS—Chris Marques, ext. 27.
LINCOLN—Maxine Utley, ext. 412.
PLATTSBURGH—Elly FitzPatrick, ext. 6281.
SCHILLING—Laine Browne, ext. 213.
SHEPPARD—Steve Delbridge, ext. 8243.
VANDENBERG—Lucy Signorelli, ext. 8-5046.
WALKER—Rod Bricker, ext. 603.



ADDED EFFORT—Lt. Col. Hubert E. Miller, deputy SATAF commander at Lincoln AFB, presents Commander's Award to Astro's Richard A. Seibert. Seibert was cited for quick action that prevented loss of Atlas missile and possible injury to fellow employees during Offutt AFB operations. In light colored coat is Don Hamm, chief of product support. Others are fellow employees at Lincoln AFB.

Tommie Zannes Memory Occasions Cancer Gift

VANDENBERG AFB—General Dynamics/Astronautics employees here, through action of their Con-Trib-Club, have created a memorial to a former boss and fellow employee—Tommie Zannes.

Last month $10,000 was presented to the American Cancer Society as a "Tommie Zannes Memorial Gift." It was the largest gift ever made to the Society in Santa Barbara County and represented an average contribution of $7 per Astro employee here.

Zannes died three months ago of cancer.

Robert Hughes, missile electronics technician and Con-Trib-Club Committee member, presented the gift to Peter Bakewell, campaign chairman responsible for Santa Maria and Lompoc.

"We offer this gift in the name of Tommie Zannes out of affection for our former boss, a man of real humility and compassion, and a truly great American," Hughes said.

A two and one-half minute film, produced by Tom Jaqua in cooperation with Con-Trib-Club and the Astronautics motion picture section, was shown locally on television outlets.

It traced Zannes' career, covering his work as test conductor (at Cape Canaveral) on the first successful Atlas missile launch and subsequent successes. It also showed him as manager of Astronautics operations here, his last post before being stricken with lung and brain cancer in 1961.

One statement, made by a former associate, summed up the feelings here for Zannes: "Tommie Zannes was popular for many reasons. One was his overt patriotism. He worked first for his country, secondly for Astronautics, and lastly for himself."

★ ★ ★

LINCOLN AFB—Appreciation for this area's hospitality during Atlas base activation operations has been shown by General Dynamics/Astronautics personnel through their Employees' Con-Trib-Club.

Over three years' time, Con-Trib-Club has disbursed nearly $30,000 to United Appeal and other charitable organizations in the Lincoln and Omaha areas.

This year's gifts total $9,000.



CHAMP TEAM—Support Documentation volleyballers line up with trophies after capturing IRC title with three straight wins over Spacemen in play-off. Snapped at award night barbecue in Pecan Park are (standing), from left, Ray Mendoza of ARA, Tony Heintz, Bob Mallgren, Jim Simley; (seated) Pete Beyrer, CRA commissioner, Reno Bernardini, George Vogt, Bill Creamer. All are from Astro Dept. 337 except Creamer of GD/Electronics.

Dynamics Teams Win Trapshoot and Skeet

General Dynamics sharpshooters captured the lion's share of awards at the annual Industrial Recreation Council Gun Shoot July 1, winning two of three events.

Nearly 150 people including 68 participants at Gillespie Field Range saw GD teams win both the skeet and trapshoot events while Rohr swept the rifle match. Commissioners Jack Swank and Ezra Johnson of host CRA-ARA Gun Clubs termed the affair "highly successful."

GD's team of Jim Field, Ken Wulfemeyer, C. W. Pharis of GD/Convair, Jim Hartman, GD/Astro, and W. E. Rickman of Prophet Co., shot 221 out of a possible 250 to edge SD Gas Co. with 217 in skeet. Both teams collected individual trophies. Third place went to GD/Astro Management Club team shooting 200. Rohr followed with 163.

Trapshoot honors and the perpetual team trophy went to a GD team including George Anderson and Warner Gatterman of GD/Astro, Howard Jacklin of GD/Electronics, Jay Cushman and Jack Rogers, GD/Convair, winning easily with a 235 score. GD/Astro Management Club and another combined GD team tied for second place with identical scores of 211, nosing out Aetna Insurance at 210.

The GD combine of George Clayton, Eldon Carpenter, Joe Butera, Ken Beadle and Edward Sullivan, overpowered Astro Management Club in the shoot-off, 111 to 102, to earn individual trophies. Third place trophies went to Astro Management Club's Blas Vargas, Roy Cunningham, Ezra Johnson, Jerry Schultz and Jim Hartman.

Highlight of the day was the Gatterman family performance. Warner shot 49 out of 50 to tie George Clayton for men's honors while his wife, Edna, shooting for Aetna Insurance, triumphed over the ladies with 44 hits in 50 tries.

Mexico Tour Now Forming

Prospective tourists from GD/Convair, GD/Astro, and GD/Electronics, and their families, may put their names on the list now for a two-week trip by train and bus into the interior of Mexico.

The tour, arranged especially for General Dynamics people, is slated for the last two weeks in August. It comes as conclusion of the current "tourist" Spanish language course now being taught by Jim Hardison of GD/Convair Dept. 15-0.

However, Hardison said that anyone in San Diego facilities may join the tour, regardless of whether they were enrolled in the language course.

Package price will be $350 a person, if 30 or more sign. Departure date is Aug. 17 from Mexicali. Pullman accommodations will be arranged, with air conditioning, and catering for two meals.

An overnight stop will be made Sunday at Guadalajara, with the group entraining Monday evening for Mexico City. After seeing the sights in and around the capital city, the tourists will go by bus to Acapulco and return. The trip will wind up with a visit to Puebla, industrial center and site of glass and pottery making.

Return date at Mexicali will be Sept. 2.

Anyone interested may reach Hardison at his home phone, BR-6-5805, after 7 p.m.

Salvage Yard Dates In July, August Set

Employee sales days at GD/Convair and GD/Astro salvage yards for the next four weeks are:

GD/Convair—July 21, Aug. 4.

GD/Astro—July 28, Aug. 11.

Yards are open at both Plant 1 and Kearny Mesa sites on an alternating Saturday schedule, 8 a.m. until noon.



PLAYBOYS!—CRA cameramen surround "Miss Photorama" (Fran Rooks) in Convair club's prize-winning set, simulating Playboy Magazine cover, at recent Balboa Park contest. From left are Ron Ainsworth, Whitey Claxton, Howard Harvey, Leo Vigneault.—Photo by Les Blakely, Astro Lens.

Sailplaners Open Summer Soar Season

A clear, warm day greeted San Diego sailplane pilots as they traveled to Elsinore to lift off the summer soaring season with a two-day meet at Skylark Field June 30-July 1.

"Weather conditions provided lots of thermals to 5,000 and 6,000 feet above sea level to make for good gliding," said Gene Whigham, CRA Glider Club commissioner, whose group, in its affiliation with the Associated Glider Clubs of Southern California, sponsored the event.

Whigham was in the money both days, taking a second place in Saturday and Sunday tasks. Saturday's chore was to complete as many circuits as possible around a triangular 57-mile course starting at Elsinore with turn points at Jack Rabbit Pass and the Ramona Bowl. Time limit was three hours—from 1 to 4 p.m.

Flying his original design home-built sailplane, Whigham glided to earth when he lost his thermal on his second lap around. His 70-mile run was bettered by George Tweed, now of Cubic Corp., who kept his glider afloat for six more miles.

Third place went to Duke Stallings of GD/Astro who managed to reach the starting point before the deadline in his modified Schweizer TG-2.

The next day, Whigham came in just two miles behind the winner over a similar course with turn points at Valley Vista and a highway crossroad landmark. Jack Green, flying Tweed's sailplane, made it around the 52-mile course twice to mark up 109 miles; Whigham made 107 miles; and Stallings was third again with 61 miles.

Other contestants were Jim McCarrier, flying a home-built Cherokee glider, Larry Erickson and John Walker, both flying Schweizer 1-26s.

Gene Cain of GD/Astro served as starter and tow plane pilot.

Discount Offered On Padre Tickets

A bonus discount baseball night is scheduled for GD/Convair and GD/Electronics fans through CRA arrangements with Industrial Recreation Council.

Tickets are now at employee services, Bldg. 32, Plant 1, for the Padres vs. Seattle game next Tuesday (July 24).

Discount amounts to 75 cents off any seat in the ball park. When tickets are exchanged at the Westgate Park box office, box seats can be purchased for $1.25 and general admission for 50 cents.

Famme Outlines Possible Business

(Continued from Page 1)

consistently under-run, concluded with:

"Your performance against cost to complete projections has been outstanding. I don't think any other company in the industry could match it. The work you have done on this program is as important to the Corporation as winning a multi-million dollar contract.

"It is utterly inadequate as recognition of your tremendous accomplishment, but accept my deep thanks, and congratulations . . ."

SERVICES CONDUCTED FOR GD/CONVAIR WOMAN

Services were conducted July 12 for Frances F. Terpening, long-time GD/Convair employee, who died suddenly July 9 while at work. She had been with GD/Convair since 1940 and was leadman in material and services department.

Save Material—Don't Throw Your Job Away!

GD/Convair Son, Skating Champ, Seeks National Senior Title

Winning titles is becoming a habit with John Renz, "free wheeling" son of L. J. Renz, GD/Convair Dept. 25.

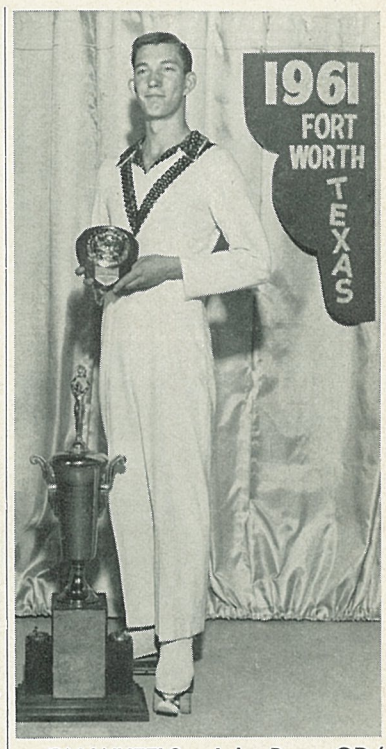
A whiz on wheels since he took up roller skating at the age of 12, John will compete for the national senior men's singles championship this month.

He will be spinning and whirling with leading skaters from the United States, Hawaii, and Canada at the July 29 competition in Lincoln, Neb. Thirty-two first through third-place winners will represent eight regions in this country, one each in Canada and Hawaii.

John won the right to be numbered among top contestants by sweeping the field in senior men's singles at the California regional meet June 29 in Oakland, Calif.

Climbing up the trophy ladder, he won both the state regional and national junior titles in 1960 and repeated the same performance for regional and national intermediate honors the following year.

The GD/Convair son, 17, will be a senior at Lincoln High School in San Diego this fall.



ON WHEELS—John Renz, GD/Convair son, heads for top national roller skating competition. Photo was taken at Fort Worth last year where he won national intermediate.

Lensmen Will Shoot At Amusement Park

A fun night is slated for CRA Camera Club members when they aim their cameras at scenes in a carnival atmosphere next Tuesday night (July 24) at Belmont Park.

The group is changing its regular meeting day for the special occasion since the amusement park on Mission Bay is closed Mondays.

Color slides of Howard Harvey and Joan Ainsworth were accepted for display in the Southwest International Salon at the Southern California Exposition the first week of this month at Del Mar.

In the July 9 quarterly contest Mrs. Ainsworth took honors in both black and white and color divisions. Other color winners were Cliff Dietz, a new member of the CRA group, and Allen Henney. Ron Ainsworth had a winning black and white entry.

Joe Williamson Tops Masters

Joe Williamson shot top scores to take both the master class in the .22-cal. Police Course and the Short National in July 8 competition of CRA Pistol Club.

Williamson (Dept. 401-5) shot a 294 to place first in the master's. Following in second place was W. G. Walker (Dept. 6) with 286.

A tie between Dale Young (Dept. 115) and Ralph Picard of GD/Electronics in the expert class was decided by Young's rapid fire score. They both shot 274s.

Scores in the Short National were Williamson, 284; Walker and Vern Mardis (Dept. 34), tied with 270s; Picard, 254. Walker was placed second by his score during the 10-round rapid firing.

Engineering Review Course Offered by Calif. U. Extension

General Dynamics engineers in California intending to take professional examination for mechanical engineers this fall are reminded of a special review course beginning next week.

Registrations are now being accepted by University of California Extension office for the course starting July 26.

This course includes a review of fundamentals in the fields of strength of materials, thermodynamics, fluid mechanics, heat transfer, dynamics, engineering economics. It helps prepare applicants for the Nov. 17 professional examination offered by the State Board of Registration for Civil and Professional Engineers.

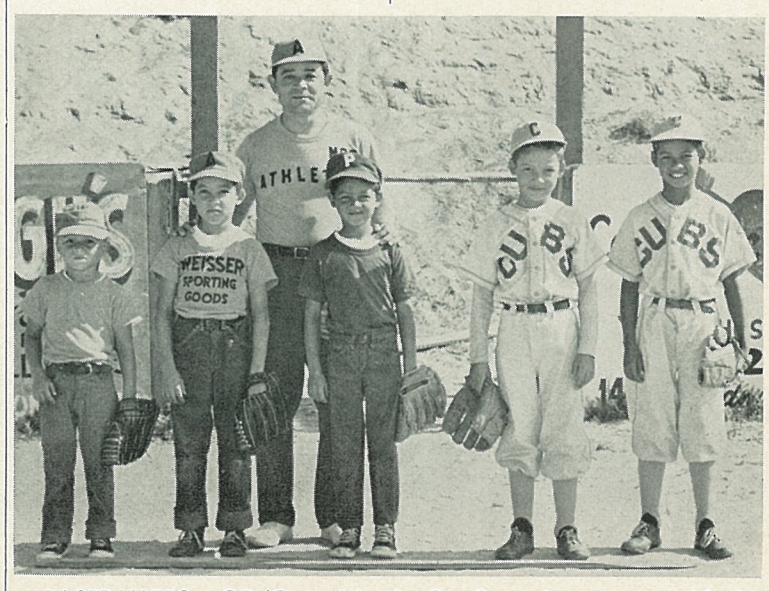
Before students can enroll in the course, they must have had at least two years of experience in a responsible position, said Carl G. Erickson of GD/Astro, class coordinator.

FIVE SONS FORM GONZALEZ' 'TEAM'

J. G. Gonzalez, GD/Convair manufacturing control, is raising a baseball team.

Gonzalez, treasurer and manager of Twin Hills Little League, boasts four sons on the team and another expected to qualify soon. They are Joe Jr., 11; Carlos, 10; Frankie, 9; Willie, 8; and Ricky, 6. Ricky is being groomed as a pitcher and already can fire the ball with amazing accuracy.

The Gonzalez family is also represented in the stands where Mrs. Gonzalez and daughters Ofelia, 3, and Rosemary, 2, are regular rooters.



BASEBALLERS—GD/Convair's J. G. Gonzalez poses with his baseballing sons, Ricky, Frankie, Willie, Carlos and Joe Jr.



TRAPPED—CRA Commissioner Ken Wulfemeyer receives advice from golf pro Charles Rizzo as he gets set to blast out of trap near third green on new Carlton Oaks CC course, site for CRA tourney July 28-29.

GD/Convair and GD/E Golfers Tackle Carlton Oaks July 28-29

Golfers at GD/Convair and GD/Electronics will be tackling a new course in a bonus CRA tournament at reduced greens fees over the weekend of July 28-29.

Through CRA arrangements, linksmen will be using the new Carlton Oaks Country Club course for the first time. The tree-lined fairways and plenty of well-laid-out hazards provide a challenge to the most demanding golfer, said Ken Wulfemeyer, CRA commissioner.

Foursomes must be formed within the next couple of days and entries turned in by this Friday (July 20). Tee-off times will be assigned for either Saturday or Sunday through ext. 1705, Plant 1.

"If you sign up, show up!" warned Wulfemeyer. "We cannot expect courses to honor our arrangements for the benefit of CRA golfers if some of them renege on their entries."

Greens fees will be $3.50 each instead of the normal $5 charged on weekends. There will be no prizes awarded.

The recently-opened course is reached by Mission Gorge Road with entrance from Carlton Hills Blvd.

Archers Drawn To Field Meet

Nearly 40 archers turned out to try their skill at the regular field shoot July 8, in spite of lure of the beaches, vacations, and other summertime activities, said CRA Commissioner Al Phipps.

Winners at the monthly CRA Archery Club event were: Class 450 freestyle, Jack Bice; Class 400 freestyle, Duke Nyhus; Class 400 barebow, Harry Ross; Class 325 freestyle and barebow, mixed, Brent Banwell.

Class 250 mixed, Loris Larsen; Class 175 mixed, Clarence Snipes; Class 100 mixed, T. R. Sweet.

Women's Class 275, Frankie Smoot; women's Class 225, Diane Vetrecin; intermediate barebow, Mike Phipps; intermediate freestyle, Peter Simoneau; junior freestyle, Don Snipes.

Bishops Chosen By Hoedowners

Carl and Gladys Bishop were installed in the post of president of CRA Hoedowners for their second term at a July 3 potluck in American Legion Hall.

CRA Commissioner Maury Scholz directed ceremonies which seated new officers who will direct activities of the GD/Convair square dancing group during the next club term.

Other couples chosen at the June 26 election were Ken and Edith Empy, vice president; Larry and Virgie Bishop, secretary; and Stan and Louise Fandell, publicity.

Wes and Muriel Oswald were appointed senior representatives in the San Diego Square Dance Association. Junior representatives are Don and Ethel Truesdale.

Appointed to represent the club in the Heartland Square Dance Association were Harold and Dolores Humes, senior representatives; Charles and Ann Clark, junior representatives.

Intermediate and advanced sessions continue each Tuesday evening at 8 p.m., American Legion Hall, 4061 Fairmount Ave. Party night is held the fourth Saturday of each month.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. until 1 p.m., Clairemont Mesa Flying Site.

BRIDGE CLUB—General Dynamics players eligible to take part in weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts. Special summer monthly rates in effect.

CAMERA CLUB—Next meeting changed to Tuesday (July 24) at Belmont Amusement Park, Mission Blvd.

CHESS CLUB — Play each Wednesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

COIN CLUB—Meeting tomorrow (July 19), 7:30 p.m., Convair cafeteria, Pacific Hwy.

GARDEN CLUB — CRA-ARA summer show Aug. 12, Floral Assoc. Bldg., Balboa Park. Classification forms at employee services.

GOLF — Entries close Friday (July 20) for CRA tournament at Carlton Oaks CC course, July 28-29. Call ext. 1705, Plant 1.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot July 22, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (July 19), 8 p.m., Harbor Drive headquarters.

ROAD RUNNERS — Weekend outing July 20-22 to Hulburd's Grove, near Descanso.

SOFTBALL — "Slow pitch" league games Wednesdays, 6:30 and 8:15 p.m., Latter Day Saints fields, 47th and Ocean View Blvd.

SQUARE DANCING — Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

WATER SKI CLUB — Regular skiing sessions Saturday mornings, 8-11 a.m., off Santa Clara Point, Mission Bay. Call Gene Sevigny, ext. 1657, or Jack Loos, ext. 2456, Plant 1.

'Invitation Dinners' Cards Are Offered

Reduced-price applications for membership in Invitation Dinners, Inc., are available to GD/Convair and GD/Electronics employees at employee services, Bldg. 32, Plant 1.

Through Invitation Dinners, Inc., 26 area restaurants provide two dinners for the price of one. Normal membership cost of $5 is reduced to $4.50.

Sports & Recreation

Hungry Sports Drivers Descend On Pine Crest For Breakfast

An hour-and-a-half drive before breakfast into the mountains whetted appetites of nearly 100 CRA Sports Car Club members on their July 1 rally to Pine Crest, CRA recreation area near Julian.

Chefs manning the chuck wagon ladled out 15 dozen eggs, 14 lbs. of bacon, 15 lbs. of ham, five gallons of orange juice and six gallons of coffee to 95 members, children, and friends who traveled from San Diego State College parking lot to the Cuyamaca Mt. site. The four gallons of pancake batter it took to fill the ravenous crowd was donated by the International Pancake House.

Stressing the family-type gathering, a prize went to Jim Alexander for the largest family attending en masse. Mr. and Mrs. Alexander had their six children along.

Winners of the rally to Pine Crest were Dick Perkis, GD/Convair Dept. 97-5; Sid Weiner, GD/Convair Dept. 27-5; Clark Kerr and Warner Lowe, both GD/Convair Dept. 6.

The day was topped off by a reliability run on roads between Pine Crest and Julian with 25 going over the course twice, once with watches and the next time without, to see how close they could duplicate their times. Winners were Miles Nesman, GD/Astro Dept. 580-6; Del Griffin, and Mike Harmon.

The event was under direction of Lou Barnes, GD/Electronics Dept. 5-406, and his wife, Dorothy, said CRA Commissioner Gerry Wright, who went on to say that it was one of the most successful outings the club has had.

Gardeners Groom Blooms For Show

Gardeners at GD/Astro and GD/Convair are grooming their best blooms for the annual Summer Show set for Sunday (Aug. 12) in Balboa Park's Floral Association Bldg.

Dahlias, fruits, vegetables, flower arrangements will be featured at the annual show, jointly sponsored this year by CRA and ARA clubs with CRA Commissioner E. L. Zimmerman and ARA Commissioner Everett Henderson heading arrangements.

Classification forms, listing all divisions, will be available at employee services at both plants some time this week.

Monday Is Deadline On Club Ball Night

GD/Convair Management Club baseball fans have only a couple of more days to pick up their reduced-rate tickets to the Padres game July 25.

Deadline for purchasing the tickets at regular outlets within the plant is next Monday (July 23).

The Management Club's executive board has made arrangements for best seats in the house for members and their families at $1.25 each.

Coin Clubbers Grab Awards

Exhibits of three CRA Coin Club members garnered top awards at the Southern California Exposition with Mr. and Mrs. Harvey Rose each winning separate prizes and Al Baber taking the first-place Don Diego trophy.

Baber, secretary of the GD/Convair group, won the award with his complete set of five-cent nickels of the United States, dating back to 1865.

Mrs. Rose's display of medals of Mexico was awarded the perpetual Dr. Wallace trophy. Rose took best of show with his coins of modern Mexico.

Odd and curious coins will be exhibited at the club's regular meeting tomorrow night (July 19) at 7:30 p.m. in the Convair cafeteria, Pacific Hwy.

Displays of members will supplement the talk on "Coin Oddities" by a guest speaker. One of the rarest of coins, a 1943 copper cent, owned by Baber, will be shown. Only steel cent pieces were officially minted in that war year, but a few copper ones slipped through and are now considered extremely valuable. In fact, said Baber, one sold in San Francisco for $7,000.

Two Unbeaten In 'Slow Pitch'

Unaffected by the Fourth of July break, two teams continued to dominate the GD/Convair "slow pitch" softball loop in last Wednesday's (July 11) action.

GD/Convair Electronics swamped Manufacturing Control Plant 2, 16 to 4, and Stores & Dispatch Plant 1 ripped Hi-Lows 12-4 to maintain their perfect (4-0) slates.

Other games saw Purchasing GD/E nip Fire Department 13-12 in a thriller while Production Control GD/E pounded Accounting 16 to 5.

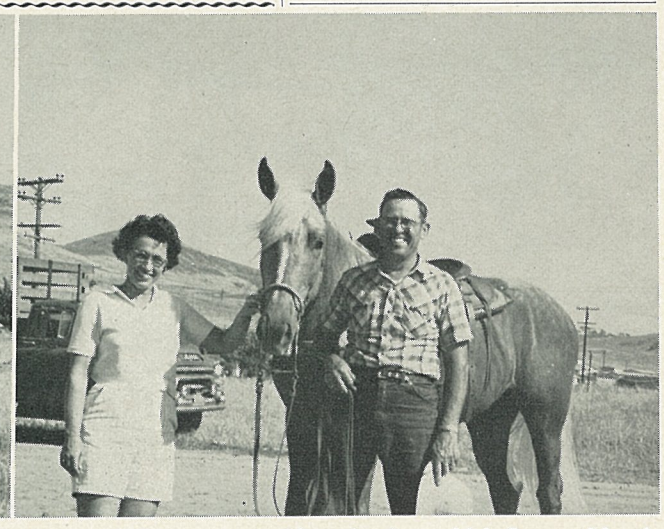
A full slate is on tap for tonight (July 18) at Latter Day Saints fields wth games at 6:30 and 8:15 p.m.

STANDINGS

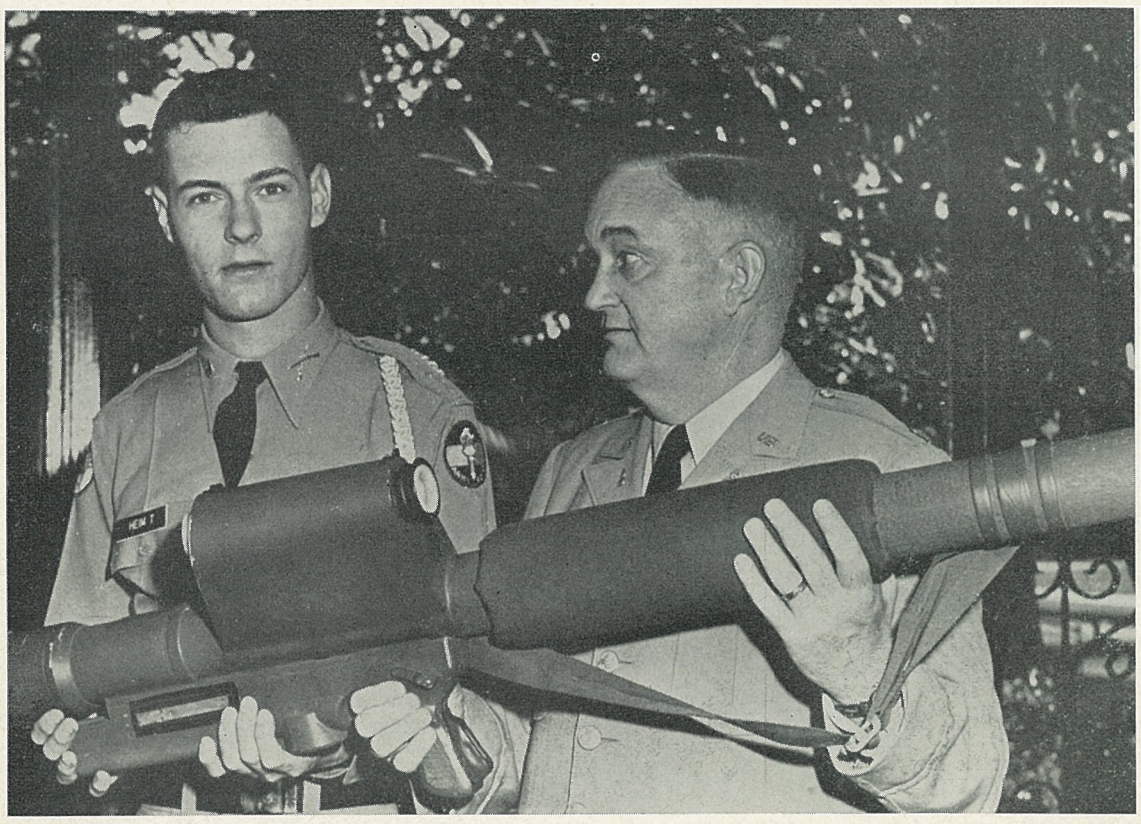
	Won	Lost
GD/Convair Electronics	4	0
Stores & Dispatch Pl. 1	4	0
Mfg. Control Pl. 2	2	2
Purchasing GD/E	2	2
Hi-Lows	2	2
Fire Dept.	1	3
Prod. Control GD/E	1	3
Accounting	0	4







SANTEE OUTING—Thirty members and families of CRA Riding Club enjoyed variety of activities during recent Saturday as guests of Lou and Bruce White at their Santee ranch. One group took to trail into Black Mountain area; others dipped in pool; all dug in at barbecue. Whites pose with palomino which Bruce rides in frequent parade appearances. Plans for annual barbecue at Pecan Park will be made at Aug. 2 meet.—Photos by Tommy Thomason, club president.



BRIEFING—Army's Redeye (developed at GD/Pomona) is explained by Lt. Col. Joe T. Beck, Chief of Inspection Division, Los Angeles Army Ordnance District, to Cadet 2nd Lt. Thomas A. Heim of Pasadena High School ROTC during recent visit to Army missile procurement agency.

Hustler Crews Drill For 1962 Competition

Crack B-58 Hustler crews from 43rd and 305th Bomb Wings are poised for 1962 SAC Combat Competition, which will be run over a "common course" Sept. 10-15.

Instead of competing from a central base, planes will fly from their home bases to a point where the route becomes common to all, SAC announced.

The Mach 2 Hustler—making its second appearance in "World Series" bombing competition—will compete against B-52 and B-47 bombers. KC-135 and KC-97 tankers also will compete.

On the way to the common route, competing crews will fly a celestial grid navigation leg. Bombing, air refueling, low-altitude navigation and electronic countermeasures activities will be conducted along the common route.

The bomb wing with the best composite score in these activities will receive the coveted Fairchild Trophy for a year.

Additionally, trophies will go to the best B-58, B-52 and B-47 units and to the best crews for each type aircraft. A best overall crew in the competition also will be named.

Scoring is based on: bombing, 40 points; high-level navigation, 20; low-level navigation, 10; air refueling, 10; and ECM, 20.

Each crew can score a maximum of 100 points, while a bomb wing can amass a possible 300 points. SAC Headquarters at Offutt AFB will maintain a central scoreboard.

Each competing bomb wing has been directed to name one Select (S), one Senior (E) and one Ready (R) crew in order to obtain a cross section of SAC combat crews.

Select crews are picked for "outstanding qualifications"; Senior crews for their relative degree of experience and professionalism; and Ready crews for their ability to perform a mission assignment.

Col. Frank O'Brien Jr., commander of 305th Bomb Wing at Bunker Hill AFB, Peru, Ind., has named the following three crews.

S crew: Maj. Sidney J. Kubesch, Maj. John O. Barrett and 1st Lt. Geral R. Williamson.

E crew: Capt. Wallace D. Worman, Maj. Herbert F. Fette and Capt. Louie A. Babbitt.

R crew: Maj. John S. Williams, Maj. Joseph N. Laccetti and Capt. Daniel L. McCarthy.

To represent 43rd Bomb Wing at Carswell AFB, Fort Worth, Col. Everett W. Holstrom, commander, has named:

S crew: Lt. Col. Harold E. Confer, Lt. Col. Richard H. Weir and Maj. Howard S. Bialas.

E crew: Lt. Col. David P. Hopwood, Capt. Harold M. Covington and Capt. William D. Gillett.

R crew: Maj. Leslie R. Prout Jr., Maj. Lorne R. Worthy and Capt. Donald J. Avallon.

Each bomber unit is scheduled to fly one of its crews on the first three dates. The last three dates will be kept open for make-ups due to weather.

Repair Time Cut in Half By On-Spot Panel Weld

A new welding process that allows rapid, on-the-line repair of B-58 honeycomb panels was demonstrated for the Air Force at GD/Fort Worth last week.

On hand were personnel from three sites slated to receive the new arc spot welders—43rd Bomb Wing at Carswell AFB, 305th Bomb Wing at Bunker Hill AFB, and San Antonio Air Materiel Area. Kelly AFB was also represented.

"Not only does the new process cut repair time in half," said Joe Taylor, manufacturing research engineer, "but it permits on-the-spot repairs not possible using present methods."

Reliability of the process was proven on a prototype—probably the first in the aircraft industry—built and operated at GD/Fort Worth since 1958.

"We repaired over 200 damaged B-58 panels without having to scrap a single one," Taylor explained recently.

Key to the new method is a copper "welding nozzle" about one-quarter inch in diameter. This head concentrates the weld nugget on the immediate area, preventing heat from spreading to adjacent areas.

"This is vital when temperatures sometimes approach 2,000 degrees Fahrenheit during welding," Taylor said. "With conventional welding, the extreme heat often causes contaminants such as internal oil and fuel inside the honeycomb to emit harmful gases."

Pre-welded, standardized "patch assemblies"—also made on the arc spot welder—will be used by flight-line technicians. After placing the patch, the welder operator sets a timing device which automatically holds the weld on a certain spot for a prescribed time. The operator initiates action by a two-stage foot pedal.

"Another advantage of the arc welder is that access need be made only on one side of the panel," Taylor emphasized.

Practically any configuration honeycomb can be repaired on the arc spot welder. But where a part is extremely difficult to reach, a manual "gun-type" welder can be used.

One Air Force sergeant estimated that repair time of the average honeycomb panel would be reduced by about 100 per cent using the new process. The process precludes involved heating and cooling processes now used.

"But even more important," he said, "we'll be able to repair virtually all panels on site rather than sending them to a general repair depot."

"And possibly most important of all is the reliability factor," Taylor said. "The savings in time, effort and money should be appreciable."

Accident-Free Year Flown by Texas Sq.

A Texas Air Force squadron, flying Convair-built interceptors, completed an entire year without an accident the latter part of June.

The 3558th Flying Training Squadron, Perrin AFB, near Sherman, Texas, piled up a total of 20,126 hours, 45 minutes, during the 12-month period, with over half that time in F/TF-102s.

Slightly over 10,216 hours were flown in the Convair jets, reports L. D. Harris, GD/Convair field service representative with the 3555th M&S Group at the base.

The 3558th squadron has been flying F-102s over two years and had missed a previous year's safety record during that period by only 16 days.



OPERATORS—H. R. Dvorak, left, chief of Nuclear R&D, and Maj. E. A. Kostyniak, right, AF chief-development engineering division, present nuclear reactor licenses to, from left: Jack Pugh, test engineer, J. E. Medley, nuclear engineer, and R. H. Brickley, senior test engineer.

Licenses to Operate Reactors Issued to Three FW Engineers

Three nuclear reactor operator licenses were awarded by the Air Force at GD/Fort Worth this month.

Receiving the licenses from Maj. E. A. Kostyniak, base development manager division, Air Force Plant Representative's Office, were: Jack Pugh, test engineer, J. E. Medley, nuclear engineer, and R. H. Brickley, senior test engineer.

The licenses authorize these men to operate the aerospace systems test reactor, ground test reactor and reactivity test assembly.

Tests were conducted by Air Force consultants Dr. J. E. Carothers, Lawrence Radiation Laboratory, and Dr. R. G. Cochran, head of the department of nuclear engineering and nuclear science center at Texas A & M College.

Issuance of the three licenses brings to 10 the total number awarded to GD/Fort Worth personnel.

Previous recipients were: C. W. Dickerson, nuclear engineer; E. L. Jordan, nuclear engineer; J. B. McGuffin, aircraft shield test reactor coordinator; Willie Park, ground test reactor coordinator; J. T. Pancoast III, senior nuclear engineer; D. F. Ross, nuclear engineer; and E. J. Brunner, nuclear test laboratory group engineer.

Secrest Lecturer At Texas Institute

Dr. E. L. Secrest, chief of applied research, was guest lecturer at a recent all-day Summer Institute sponsored by National Science Foundation at Texas Christian University.

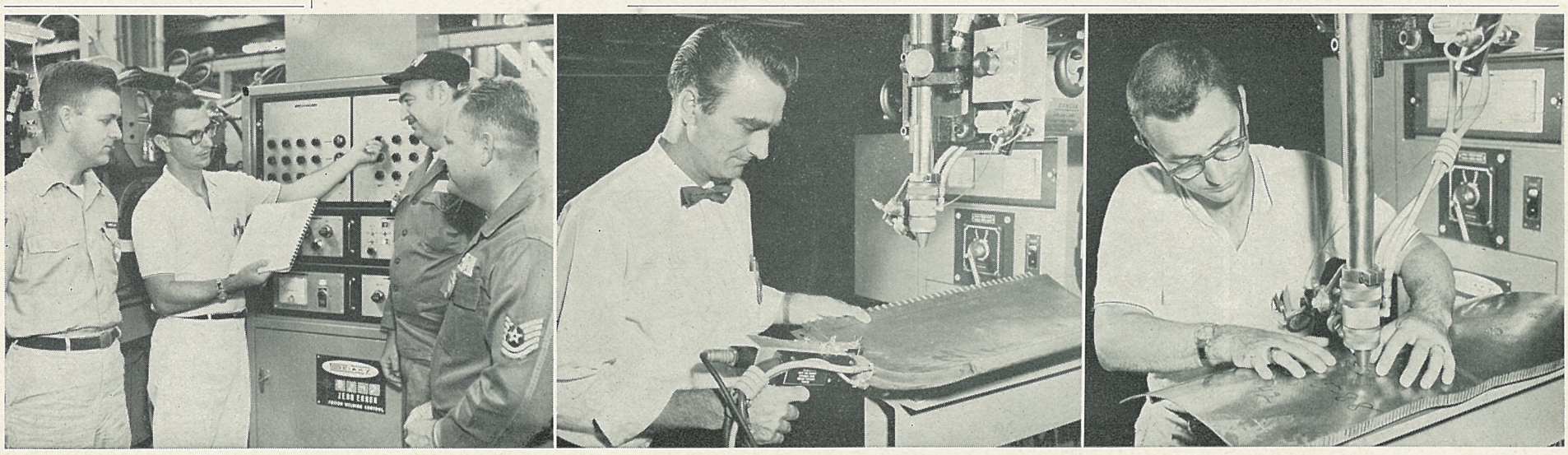
His topic was "Survey of Modern Physics." High school and secondary school science teachers from a wide area attended.

GENERAL ATOMIC AWARDED CONTRACT FOR CELLS STUDY

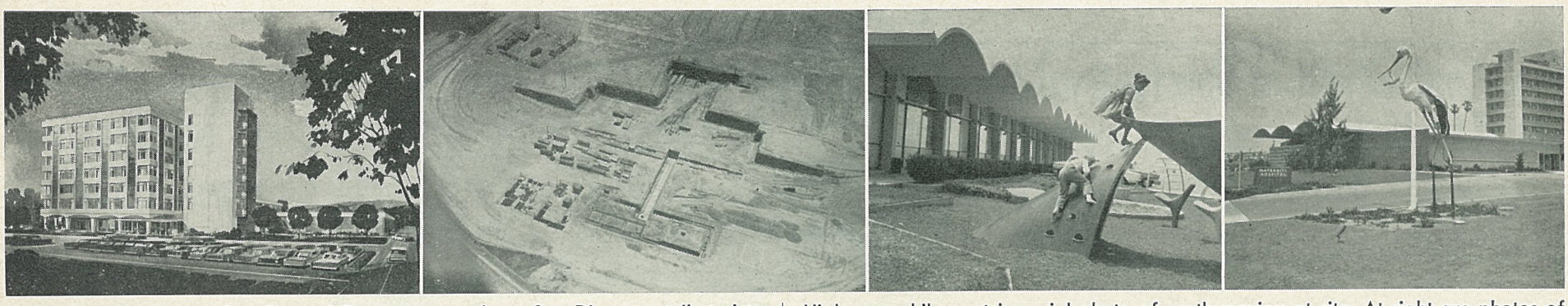
General Atomic Division of General Dynamics has been awarded an Atomic Energy Commission contract for more than $400,000 for research and development of fission-heated thermionic cells for use in high-performance nuclear reactor systems.

Under the contract with AEC, work will be directed toward determining the feasibility and practicality of thermionic generators which contain fissionable material for operation inside a nuclear reactor. Tests on in-pile thermionic generators which directly convert the fission heat of a reactor into usable electrical power will be included in the program.

General Atomic has been conducting preliminary in-reactor tests since early 1960. Subsequent tests for the AEC will investigate the long-time effects of a nuclear reactor environment on the thermionic generators.



DEMONSTRATION—At left, Joe Taylor, manufacturing research engineer, briefs Air Force personnel on arc spot welder instrument panel. AF visitors are S/Sgt. L. D. Croft, 43rd Bomb Wing, M/Sgt. K. P. Teeters, T/Sgt. J. H. White, 305th Bomb Wing. At right Taylor demonstrates arc spot weld on B-58 panel patch assembly. In center R. E. Haas, engineer, uses welding "gun." New welding process permits fast, on-the-line repair.



PROGRESS—Money that General Dynamics people at San Diego contributed to Tri-Hospital already has shown results. At left above is artist's conception of new Scripps Memorial Hospital to be built off Miramar Road, near junction with Pacific Highway, while next is aerial photo of earth moving at site. At right are photos of Sharp Memorial Hospital maternity section. Children frolic near large windows through which whole families can view newborn infants.

Grateful Thanks Climaxes Three-Years of Tri-Hospital Fund Giving

Three years of contributing to Tri-Hospital Building Fund by regular payroll deduction came to a close last month with General Dynamics employees in the San Diego area having donated a total of $1,412,778.89, R. H. Biron, Dynamics vice president, reported this week.

"Dynamics employees, by their generous help, have earned the gratitude of the entire community," Biron, a leader in the original subscription campaign, commented.

"Well done!"

In July of 1959, to meet the urgent needs of Scripps, Mercy and Sharp hospitals, Dynamics employees by the thousands agreed to give a "day's pay a year" for three years.

At the conclusion of the period last month, George Scott, president of Tri-Hospital, voiced grateful praise for the community responsibility exhibited by Dynamics men and women.

"Tri-Hospital never would have lifted off the ground without General Dynamics . . ." he commented. "We knew we had to have really big 'pace setters' to make this campaign roll, and they turned out to be the magnificent $200,000 General Dynamics Corporate gift, and the tremendous support of employees."

Scott reported that thus far a total of $5,532,612.20 has been raised, the greatest sum ever given to capital fund raising efforts in San Diego.

Biron said that the money employees contributed will help buy an enormous amount of hospital facilities, some already built, such as the new maternity section at Sharp, and some in the process of construction, such as the new hospital under way for Scripps. Expansion at Mercy is scheduled to begin next year.

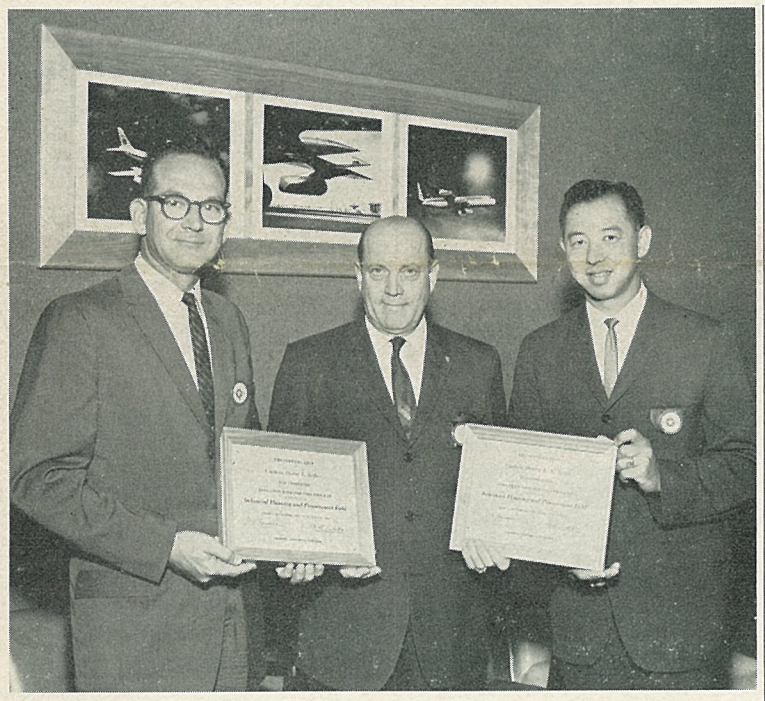
"To the employees of General Dynamics, who so generously responded to our appeal, the trustees of Tri-Hospital and the directors and administrators of Scripps, Sharp and Mercy, say thank you, with all our hearts," Scott concluded.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 16 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 1, 1962



FAREWELL—GD/Convair President J. H. Famme bids bon voyage and presents certificates to two AF officers, Capt. David L. Keller (left) and Capt. Dewey K. K. Lowe (right), as they near year's end in Education-With-Industry program at San Diego division. They leave in mid-August for new assignments.

Mgt. Club Plans Luau Aug. 15 at Catamaran

Hawaiian shirts will be in order for members of the GD/Convair Management Club turning out for the luau-style dinner meeting Aug. 15 at Catamaran Hotel on Mission Bay.

Tiki torches, fire pits, tropical bar, suckling pig centering the buffet table will set the South Sea Island theme for the "members only" gathering in the hotel's main patio.

Social hour starts at 5:30 p.m. followed by dinner at 6:30, said M. C. Tombler, general chairman of the engineering department committee making arrangements.

A ten-piece Polynesian troupe will go into its repertoire, including a fire dance, knife dance, and hula dances, following the business meeting.

Mug of the Month will go to the member chosen for contributions to club and company efforts and the usual raffle will be held to benefit the scholarship fund.

Tickets now are on sale at regular tickets outlets at $2.50 each for both dinner and entertainment, said Tombler.

Value Control Is Key to More Sales, GD/E Teams Told at Seminar's Close

"Better value control means more sales," J. W. Colvin, General Dynamics/Electronics manager of plans and programs, told teams completing GD/Electronics' second seminar program.

Colvin's talk, emphasizing importance of application of value control after training, keynoted conclusion of the value control seminar which briefed ten GD/E men in basic fundamentals of value vs. cost.

Ira D. Sykes Jr., assistant to the general manager, awarded certificates to L. M. Barnes, N. R. Ball, K. R. Keef, I. L. Kemper, R. L. Picard of Plant 1; W. A. Huot, R. B. Gruber, M. N. Macari, R. C. Merrilees, Robert Schuchman, Hancock St. facility team.

Sykes endorsed GD/E's need

(Continued on Page 2)

Contract Won For Tracking Missile Cones

General Dynamics/Convair has been awarded a $159,000 contract from the Air Force to develop a directional airborne antenna receiving system that will track missile nose cones re-entering the atmosphere.

The receiving system will be installed on an Air Force C-130A transport at the experimental factory at the San Diego plant. The contract was awarded by the U. S. Air Force Missile Test Center, Patrick AFB, Fla.

The receiving system will be designed to track signals from re-entering nose cones in both short-range and long-range air corridors. It will operate in conjunction with other existing electronic equipment installed in the C-130A.

To house the receiving system, GD/Convair will design, manufacture, and install a plastic radome about 15 feet long and three feet high which will be mounted on the forward center section of the fuselage.

W. T. Dorrance, chief electronic systems engineer at GD/Convair, said the contract was obtained through the combined efforts of the marketing department and the electronic systems design section. He said there is an excellent possibility that follow-on business will result.

Frank Machado Jr., design specialist, is program leader for work under the initial contract which is expected to extend through October of this year.

Jet Propulsion Lab Rents 4020 System

General Dynamics/Electronics at San Diego announced rental of an S-C 4020 High-Speed Computer Recording System to Jet Propulsion Laboratory, Pasadena, for use in plotting missile trajectories and recording telemetry data from lunar and interplanetary space flights.

The S-C 4020 is used to provide a "quick look" output from the IBM 7090 computer. In this way, JPL's computer laboratory technicians can constantly monitor performance of spacecraft during flight. Microfilm from the recorder is then used for archival records of space flight data.



TWIN BEAUTIES—Leona McCurdy of San Diego, who christened Delta Air Lines' first Convair 880 over two years ago, added glamour to ceremonies marking acceptance of Delta's 16th and last sleek 880 on July 20. Capt. T. P. Ball, Delta's director of flight operations, accepted plane.

Atlas Employed For Interception

Still another role for General Dynamics/Astronautics' versatile Atlas was carried out successfully last month when an Atlas equipped with a special target vehicle was launched from Vandenberg AFB.

The target vehicle was later successfully intercepted by an Army Nike Zeus anti-missile system launched from the island of Kwajalein in the Southwest Pacific.

In this special Department of Defense operation, the Atlas carrying the target vehicle was sent aloft by an Air Force launch crew. The ICBM re-entry target vehicle was launched into an ICBM trajectory at ICBM speed. Neither the intercepting missile nor the target carried a nuclear warhead.

★ ★ ★

GD/E 'BLACK BOXES' CHECK NIKE ZEUS

When the U. S. Nike Zeus missile killer recently intercepted an Atlas ICBM in mid-Pacific, engineers in ground support laboratory at GD/Electronics at Rochester, N. Y., were pleased with the achievement.

They had developed a series of "black boxes" which served as

(Continued on Page 2)

Mfg. Control, Plt. 2 Fabrication Hold Top Housekeeping Scores

Manufacturing control and Plant 2 fabrication were tied in good housekeeping at General Dynamics/Convair at the end of the first six months while two other departments, traffic and shipping and Plant 1 fabrication, were leading the safety contest.

Both manufacturing control (Depts. 192 and 292) and Plant 2 fabrication had clean slates during the second quarter, without a single violation.

During the first quarter fabrication held a slight edge with .001 violation percentage over manufacturing control's .003. Both departments had approximately the same population during the period, averaging 600 people each.

In third place was GD/Electronics production with an average of 409 employees. It had a perfect record without a violation during the period ending in March.

Average violation percentages for GD/Convair and GD/Electronics dropped from .307 at the end of March to .003 at the end of June.

In the safety contest, traffic and shipping and Plant 1 fabrication had scored five wins apiece during the first six months. Close behind were GD/Electronics production, GD/Convair experimental, stores and receiving, all with four wins.

Housekeeping standings now are reported on a quarterly basis, although inspections still are made each month, explained M. C. Val Dez, in charge of safety activities for the division. Safety scores still are recorded monthly. However, now all written safety and fire recommendations are charged against the department's safety standings. Ten points are deducted for each recommendation.

Log Book Entries

Retirements

CONVAIR

BEARSS—Jack A., Dept. 400-6. Seniority date Jan. 21, 1936, retirement effective July 20, 1962.

BETTIS—Minnie C., Dept. 97-7. Seniority date Aug. 27, 1956, retirement effective April 24, 1962.

BIDDLE—Robert R., Dept. 25. Seniority date Feb. 22, 1934, retirement effective June 29, 1962.

DE VROY—Raymond B., Dept. 201. Seniority date Nov. 17, 1950, retirement effective June 15, 1962.

HAMMACK—Robert R., Dept. 14-2. Seniority date Sept. 9, 1947, retirement effective July 20, 1962.

HAYES—Walter W., Dept. 48-23. Seniority date Aug. 12, 1955, retirement effective June 29, 1962.

HUFFMAN—Robey M., Dept. 148. Seniority date Dec. 8, 1952, retirement effective July 16, 1962.

JAMES—Aletha L., Dept. 129. Seniority date Sept. 2, 1948, retirement effective July 20, 1962.

KING—Charles F., Dept. 120. Seniority date Sept. 3, 1947, retirement effective July 6, 1962.

LINGELBACH — William, Dept. 31. Seniority date Oct. 11, 1940, retirement effective July 6, 1962.

MOBLEY—Arthur F., Dept. 101. Seniority date Oct. 24, 1951, retirement effective July 17, 1962.

REIS—Charles C., Dept. 34. Seniority date March 30, 1955, retirement effective June 15, 1962.

THORNTON—Ralph L., Dept. 140. Seniority date April 23, 1956, retirement effective July 15, 1962.

WIEHER—Charles E., Dept. 21-2. Seniority date Sept. 12, 1952, retirement effective Feb. 4, 1962.

WINTERINK—Ben A., Dept. 406-1. Seniority date Sept. 25, 1950, retirement effective July 10, 1962.

GD/ELECTRONICS

NOISAT—Ralph P., Dept. 5. Seniority date Feb. 5, 1951, retirement effective June 29, 1962.

Rider-Driver

CONVAIR

RIDE WANTED—7:30 a.m. to 4 p.m. from Chula Vista to Plant 1. Cathy Woll, home phone, GA-2-0404, or plant ext. 1234.

RIDE WANTED—3:30 p.m. to 12 midnight, from 4471 Moraga, North Clairemont to Plant 2. Mildred Powell, home phone, BR-4-1609.

* * *

RIDERS WANTED—7 a.m. to 3:30 p.m. from North Clairemont to Plant 1. H. N. Alexander, home phone, BR-8-1991, or Plant 1 ext. 2060.

* * *

CAR POOL—7:30 a.m. to 4:15 p.m. from College Grove area to Plant 1. K. L. Pauley, home phone, JU-2-4280, or plant ext. 1738.

Personals

CONVAIR

To my fellow employees in Dept. 14—my deepest thanks for the surprise party and gift given me on the occasion of my retirement. Your friendship will be long remembered.

Ralph Hammack.

Deaths

CONVAIR

HANCOCK—Carl K., Dept. 3-1. Died July 14. Survived by wife, Earnestine.

MARSHALL—Herbert B., Dept. 6. Died July 20. Survived by wife, Cecile L., and son, Alan Marshall.

Births

CONVAIR

MILLER—Twins: Daughter, Patricia Susan, 6 lbs., 10 oz., son, James Roy, 6 lbs., 14 oz., born July 19 to Mr. and Mrs. D. R. Miller, Dept. 171.

Lost & Found

FOUND—Key chain with inscribed St. Christopher medal. Dana Stevens, ext. 2239, Plant 1.

Enrollment Begins Today

Enrollment for fall semester classes begins today (Aug. 1) at San Diego colleges.

Students returning to San Diego City College day classes will enroll Aug. 1 through Aug. 9. Evening College students, who have been pre-programmed, will register during the same period. Other returning Evening College students will be signed Aug. 8 and 9.

New students may start to enroll Aug. 10 at the main campus, 1425 Russ Blvd., from 9 a.m. to 3 p.m. for day students; from 3 to 8 p.m. for extended day students.

Today is the deadline for new or former undergraduates to apply for admission to San Diego State College. Registration for graduate students will be continued until Aug. 15.

Information on admission may be obtained from San Diego State admissions office from 8 a.m. until 4:30 p.m., Monday through Friday.

GD/E 'BLACK BOXES' CHECK NIKE ZEUS

(Continued from Page 1)

part of the checkout system that made sure all parts of the missile were functioning perfectly. These RF (radio frequency) tests began while the Nike Zeus, still in development, was in the early stages of manufacture and assembly, and continue on a routine basis as long as the missile remains in a firing position. The tests might well be likened to a doctor's daily checking of a patient's pulse, temperature, respiration, and other vital functions.

The function of the RF test set is to check the missile's radio guidance and control system.

The equipment was built under contract with Bell Telephone Laboratories.

General Dynamics NEWS

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* * *

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GD/E "GRADUATES"—Two teams concluding GD/Electronics value control training July 13 are, from left, N. R. Ball, L. M. Barnes, B. M. Skrobiza, I. L. Kemper, R. C. Merrilees, R. L. Picard, K. R. Keef, W. A. Huot, Robert Schuchman, R. C. Mansell, and in foreground, M. N. Maceri, R. B. Gruber.

Value Control Key to Sales, Teams Told After Seminar

(Continued from Page 1)

for aggressive value control activities and stressed its importance in seeking new business on a competitive basis.

Brainstorming ideas and intensive investigation of the teams on two wide-scope projects, both dealing with high cost areas, resulted in initial recommendations which will be developed in further analyses, said C. W. Christie, acting value control coordinator.

Studying hook-up wire and its application, team No. 1 under direction of B. M. Skrobiza, project leader, proposed substitution of teflon insulation instead of polyvinylchloride-type wire as a quality control improvement. The change would eliminate rework and reinspection, thus reducing costs as value control objective, said the team.

Members went on to suggest specific projects dealing with hook-up wire which could be considered in other value control seminars. Hook-up wire is used in all electronic assemblies to complete the current paths between the parts or elements of an electronic device or circuit.

The Hancock St. team, studying the power supply assembly which furnishes operating power to the accelerating anode of the Charactron[R] Shaped Beam Tube, found that outside purchase might be the most economical means of procurement. R. C. Mansell was project leader.

Recommendations will be followed by further investigation into actual cost saving possibilities on both projects, said Christie.

Three teams of four men each are expected to start value control training next week (Aug. 6) in the third GD/Electronics seminar. The 40-hour program will extend over three weeks on an every-other-day basis.

Employee Services Offers Discount on Starlight Tickets

Discount tickets to coming Starlight performances will be offered GD/Convair and GD/Electronics play-goers a week before opening nights.

Tickets, which afford a 20 per cent discount to best reserved seats available at time of presentation, will be at employee services, Bldg. 32, Plant 1. Tickets to "Wizard of Oz" may be picked up tomorrow (Aug. 2) as long as they last.

Holders exchange the ducats at Starlight Box Office, Thearle Music Co., 640 Broadway, or at Balboa Park Bowl.

"Wizard of Oz" run is Aug. 9-12, 15-19; and "Bye Bye Birdie," Aug. 30-Sept. 9.

BUWEPSREPS Grow Own Tomato Crop

Bureau of Navy Weapons representatives at GD/Convair are raising their own these days—tomatoes, that is.

A hardy plant has barreled its way out of a crack at the foot of the concrete steps leading to the Navy's factory office in Bldg. 33, Plant 1. In spite of being in line of traffic, it has survived to bear a good crop with seven ripening and more to come.

R. Fisher, Navy inspector, has carefully nurtured the precocious plant, watering it through the crack, and protecting it from trampling feet.

Save Material—Don't Throw Your Job Away!

Valor Award Goes to F-106 'Storm Pilot'

An Air Force pilot who rode an F-106 into the very center of thunderstorms has received the coveted Aviators' Valor Award for 1961 and Distinguished Flying Cross for outstanding performance in the operation.

Maj. John J. Knight of AF Aeronautical Systems Division flew 18 hazardous penetrations of the most severe thunderstorm areas during the National Severe Storm Project last year to obtain urgently-needed flight data.

The project was sponsored jointly by the National Aeronautics and Space Administration, Federal Aviation Agency, and the U. S. Weather Bureau.

Major Knight was task force commander for the program which sought data on gust frequencies and intensities, turbulence intensities and effects on a delta wing, effect of rain and hail on aircraft skin surfaces at supersonic flight.

In spite of dangers entailed in "Operation Rough Rider," as the AF portion of the program was known, Major Knight volunteered to fly an F-106 on the supersonic penetration missions. Theoretical information had indicated in advance that a craft encountering hail at supersonic speeds could completely disintegrate with little chance of survival for the pilot.

However, the F-106 withstood the roughest kind of storms at altitudes of 15,000 to 40,000 feet at speeds ranging from 615 to 1,081 miles per hour (**General Dynamics NEWS**, July 19, 1961).

Data obtained will make future of flight at supersonic speeds safer and serve as a foundation for better and more precise warnings, predicted the agencies in charge.

Guiding Eyes Voted $1,000 by Con-Trib

A donation of $1,000 went to International Guiding Eyes, Inc., on approval of GD/Convair Employees' Con-Trib-Club committee at the July 17 meeting.

The contribution will be used by the organization in its work of aiding the blind to enjoy a fuller life and helping them become self-supporting.

GD/Electronics Dept. Numbers Changed at SD

New department and function numbers for General Dynamics/Electronics division at San Diego went into effect last week (July 23).

The new number sequence replaces the cost center number system used at San Diego facilities since the division was formed last year. Identification badges with the revised department numbers will be issued by GD/Electronics industrial relations as quickly as possible. Employee numbers remain unchanged.

Department numbers now are: Dept. 10-00, general manager's office; 10-10, communication.

Dept. 11-00, contracts; 12-00, industrial relations; 14-00, plans and programs.

Dept. 20-00, controller; 21-00, general accounting; 23-00, budgets; 24-00, systems and procedures; 25-00, estimating.

Dept. 30-00, reliability and quality control; 31-00, design assurance; 32-00, quality assurance; 33-00, inspection; 34-00, product test; 35-00, reliability and quality control (Hancock St. facility).

Dept. 40-00, material; 41-00, material control; 42-00, purchasing.

Engineering at Plant 1 is 54-00 while engineering at Hancock St. facility is designated Dept. 60-00. Other functions at the Hancock St. operation run in the 61 through 67 sequence.

Dept. 70-00 is operations at Plant 1, with 71-00, fabrication; 72-00, assembly; 73-00, production control; 74-00, production engineering; 75-00, facilities control.

Operations at Hancock St. facility is Dept. 80-00 with supporting functions running through 99.

Heath Joins Marketing

William C. Heath, chief engineer at Solar Aircraft Co. for many years, has joined General Dynamics/Convair's marketing department as senior requirements engineer-subcontract, President J. H. Famme announced.

In this position he will be responsible for marketing activities in major subsystems and subcontracts areas where the division's potential customers are prime contractors on government programs, explained Famme. He will report to H. C. Chambers, director of marketing.

"Heath brings to GD/Convair outstanding experience in the subcontract business," Famme said.

He was associated with Solar from 1937 until last year when he went to Cosmic Corp., El Cajon, as chief of technical services. He also has been active in technical societies, serving as San Diego section chairman of SAE, IAS, and ASME. He has held the office of national vice president in both SAE and ASME.

TICKET DRAWING DEADLINE MONDAY

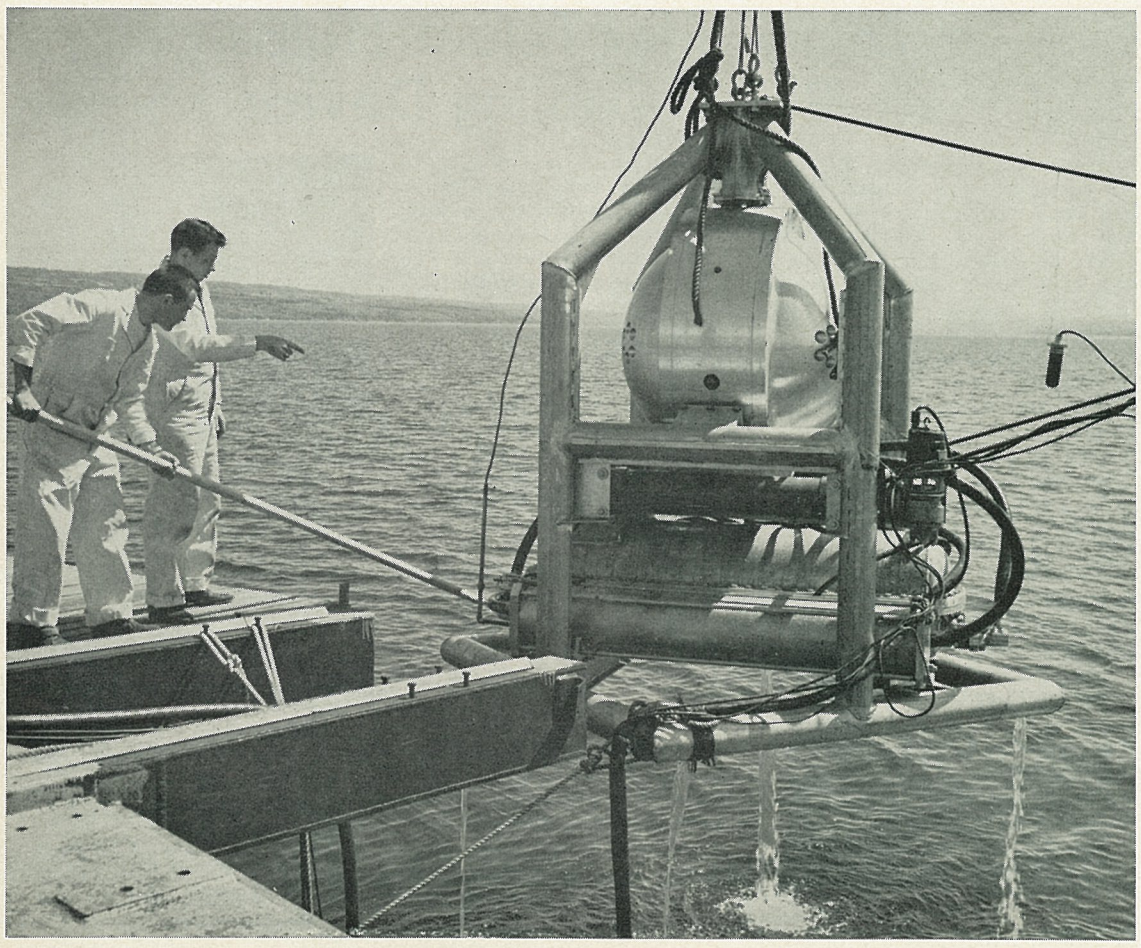
Deadline for next drawing for free tickets to Padres home games is Monday (Aug. 6).

CRA will hand out ducats to the 12 games scheduled during the month of August to winners.

The San Diego team will take on Salt Lake City Aug. 10, 11, 12, 13; Tacoma, Aug. 14, 15, 16; and Spokane, Aug. 17, 18, 19. Doubleheaders will be played Aug. 12 and 19.

Entries must be turned in to employee services, Bldg. 32, Plant 1, before afternoon of deadline date to be eligible for the August drawing. They must contain name, clock number, shift, department number, location, plant extension. Only one to a person is allowed.

Slips may be deposited in the baseball drawing box on counter of employee services or mailed to Baseball Drawing, zone 3-20.



WELCOME ABOARD—"Noisemaker" which is being used for underwater sound studies by GD/Electronics at Rochester, N.Y., is raised dripping from waters of Seneca Lake with Roger Selsam and Marshall Lesser guiding it aboard research barge "Darius." Device weighs six tons.

Powerful 'Noisemaker' Developed In Anti-Submarine Warfare Study

A large and powerful underwater "noisemaker" developed by GD/Electronics at Rochester, N. Y., for the U. S. Navy Underwater Laboratory is undergoing preliminary tests at the division's research and development facility on Seneca Lake (**General Dynamics NEWS**, Nov. 8, 1961).

Looking something like a mammoth aluminum octopus, the unique noisemaker is known as a hydroacoustic transducer. The function of this particular unit is to serve as a powerful source of underwater sound for studies being conducted by the U. S. Navy as a part of its anti-submarine warfare effort.

The testing is being done from the barge "Darius," recently placed in operation at SUTEC (Seneca Lake Underwater Test and Evaluation Center) facility, based on the west shore of the lake a few miles south of Dresden, N. Y.

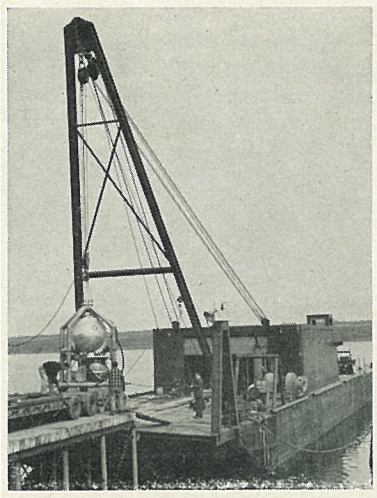
Unlike most conventional underwater sound generators which are powered electronically, the hydroacoustic transducer obtains its energy from the flow of a hydraulic fluid under pressure. By means of a unique valve amplifier, flow energy is converted into vibratory energy which is transmitted as acoustic waves into the water.

The method by which this energy conversion process is achieved was invented by Dr. John V. Bouyoucos, manager of the Hydroacoustics Laboratory at Rochester.

Marshall Lesser has been project engineer for both the transducer development and the Seneca Lake test program. Associated with him is Derek Wood, principal engineer, who was responsible for the hydroacoustic amplifier design, and Roger Selsam, senior engineer, who was responsible for structure design and is now involved in the Seneca test program.

Others instrumental in the program include William Woodhull, senior engineer responsible for analog studies, and George MacCheyne, senior engineer who conducted the vibration and stress analyses.

Gavin Jenney was responsible for the hydroacoustic amplifier tests in the laboratory, and Richard Kelly was involved in the transducer assembly and associated tests. Designers on the project were Darwin Buehlman, William Burns and Joseph Sodys.



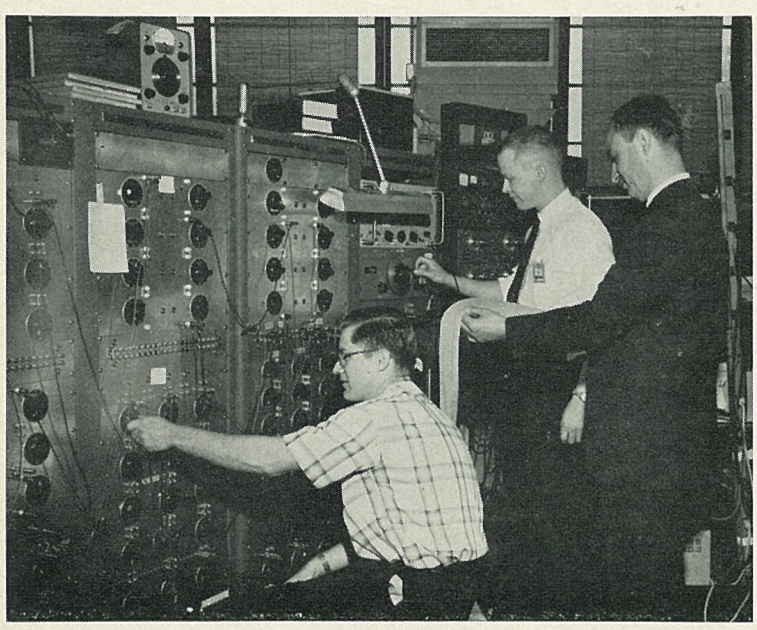
DELIVERY — New underwater transducer is loaded aboard Seneca Lake barge.

ASW's Marine Technology Laboratory under John Liu developed a pneumatic supply to provide pressure equalization for the equipment. Instrumentation was provided by Carl Hellems and associates in ASW's Under-Sea Warfare Lab headed by Arthur Zefting.

Acoustic waves are actually generated by the motion of two heavy hemispherical aluminum pistons, four feet across, and placed back-to-back, so that they form a big ball-like structure. Inside, the small valve amplifier, occupying less than one cubic foot of space, drives these pistons with a large vibratory force. The vibratory motion is controlled by a low-power electronic oscillator aboard the barge, which can be set to produce a signal of any desired frequency within the range of the transducer.

Hydraulic power for the transducer is supplied by a pump that circulates a fluid through the valve amplifier at a constant supply pressure of 3,000 pounds per square inch. The pump and its associated 100-horsepower electric motor are contained in a cylindrical oil-filled reservoir, and this and the transducer are mounted in a 10-foot-high pyramidal frame of heavy aluminum tubing. The aluminum frame was built at GD/Telecommunication at Rochester by Dept. 62 under Pat Brimstein, with S. S. (Pete) Brown as production engineer.

Hydroacoustic transducers have a number of advantages over conventional electronically powered transducers, according to Dr. Bouyoucos. They require no special materials in their construction, are exceptionally rugged, are well adapted for deep-submergence applications, are low in cost, and have a high power handling capacity for a given size.



CHECKOUT—At GD/Electronics in Rochester William Woodhull and Gavin Jenney take final measurements on transducer "breadboard" as John V. Bouyoucos, manager of Hydroacoustics Laboratory, examines graphs. This was checkout of "noisemaker" systems.

New Liquid Carbonic Facility Dedicated

Liquid Carbonic Division of General Dynamics last month dedicated a new air-separation plant at Tewksbury, Mass. which already is in operation producing high purity oxygen, nitrogen and aragon gases.

The new facility becomes a part of Liquid Carbonic's coast-to-coast network serving hospitals and industries connected with metal fabrication, electronics, food processing, transportation.

High Speed Wind Tunnel Adapted For Jet Engine Studies up to 2,000 mph

An installation which will place General Dynamics/Convair's high speed wind tunnel among the few in the country capable of research on supersonic engine components is in final stages of development.

When the new fixture goes into the tunnel next month, the division's $3½-million facility will be able to test jet engine exit nozzles destined for supersonic vehicles in conditions simulating high Mach numbers.

GD/Convair's high speed wind tunnel, located at the San Diego seaplane ramp, will be one of the few in the United States equipped to do this type of work on a commercial basis, stressed W. T. MacCarthy, chief of aerodynamics laboratories. In fact, as far as is known, the wind tunnel will be the only one on the West Coast to have such an installation.

Nozzles will be attached to an aerodynamic body positioned within the 4x4-ft. tunnel. Large pipes within the hollow steel "blade" supporting the body will carry the air flow. Thrust at high speeds will be measured by a balance within the steel body structure.

Speeds simulated will range ultimately from transonic to Mach 3, approximately 2,000 mph.

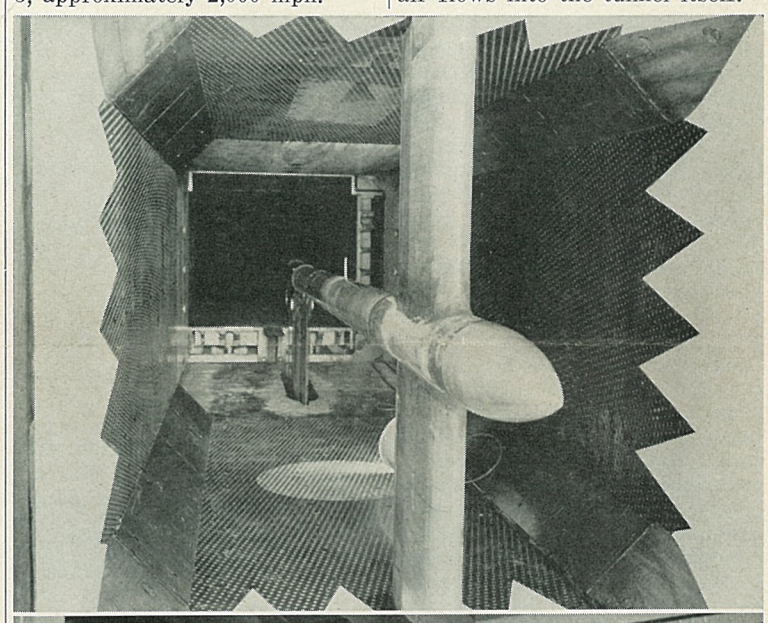
"This will allow us to compare various nozzle configurations to determine greatest amount of thrust with least drag," said D. P. Cumming, supervisor in charge of the high speed wind tunnel.

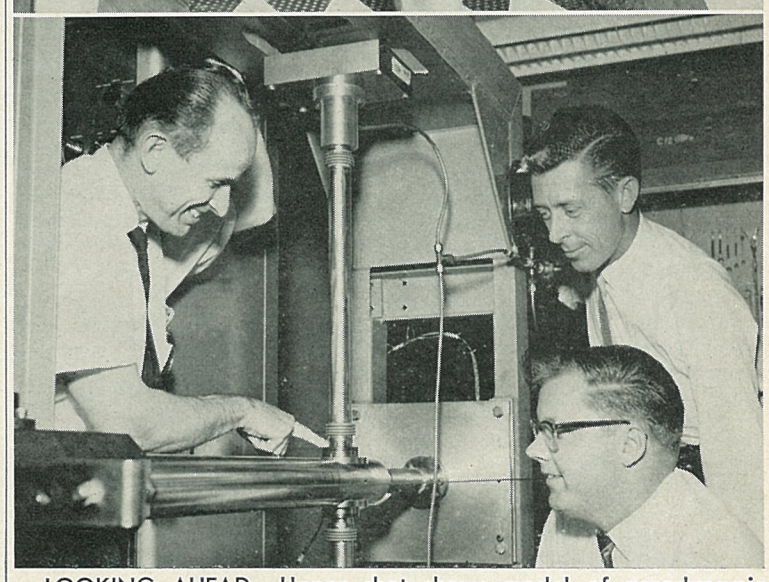
The installation will be removable so that it can be taken out for other types of wind tunnel tests.

The project, developed under an aerodynamics and thermodynamics cooperative effort, is coordinated by G. B. Nicoloff, thermodynamics design specialist. P. N. Bosch, aerodynamics lab group engineer, headed system design responsibilities.

Checkout of the air supply pipes and balances has been under way the last few weeks in the low speed wind tunnel calibration section. Tool manufacturing (Dept. 401) will fabricate parts for the final installation.

Other improvements, recently installed and checked out at the high speed wind tunnel, include a "honeycomb" steel grid, three feet thick, in the settling chamber to straighten air flow at low speeds of around Mach .5. The grid has 3x3-in. cells and is 14 feet in diameter for a snug fit within the chamber through which air flows into the tunnel itself.





LOOKING AHEAD—Upper shot shows model of aerodynamic body with supporting "blade" to go into GD/Convair high speed wind tunnel at San Diego for advanced research on supersonic jet engine parts. In lower photo, George Nicoloff, thermodynamics design specialist, Pete Bosch and Dave Cumming (kneeling), aerodynamics lab group engineers, examine components of new installation, air pipes and balance, under checkout.

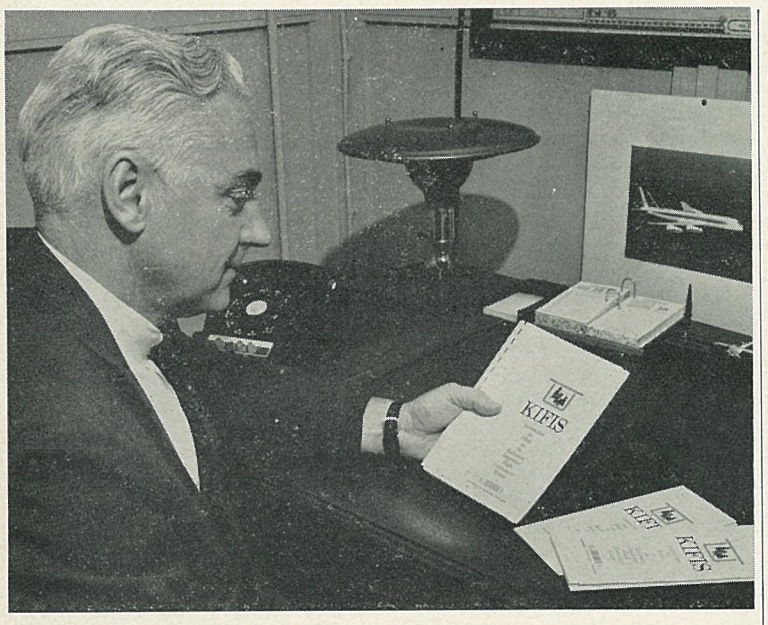
Descendant of Alexander Hamilton To Christen Polaris Sub on Aug. 4

A great-great-great granddaughter of Alexander Hamilton has been selected by the Navy to sponsor the Polaris submarine bearing his name. She is Mrs. Valentine Hollingsworth Jr., of Beverly, Mass., who will christen the submarine when it is launched at General Dynamics/Electric Boat, Aug. 4, Groton, Conn.

The submarine, second ship of the Lafayette class, is 425 feet long, displaces 7,000 tons, and is designed to fire the 2,500-mile range Polaris now being developed. The first ship of the class, Lafayette, was launched May 8.

One of the architects of the American constitutional system, Alexander Hamilton was appointed the nation's first Secretary of the Treasury at the age of 32 and established the country's credit by insisting that the new federal government redeem at face value, script issued during the Revolutionary War.

Like all Polaris submarines, the Hamilton will have two complete crews, designated blue and gold, which will alternate in taking the ship to sea, thereby enabling it to be on station almost constantly.



STREAMLINED LEARNING—P. H. Selby, GD/Convair production flight training supervisor, with revised KIFIS manual, programmed instruction for pilots to cut learning time nearly in half.

Domestic Airlines Trying Out New Type GD/Convair Manual

A programmed instruction manual, prepared at General Dynamics/Convair, is being tested by domestic airlines on their people in the field to determine how it reduces learning time and increases understanding.

Copies of the second edition of the manual on KIFIS (Kollsman Integrated Flight Instrument System) compiled by P. H. Selby, production flight training supervisor, now are in the hands of TWA, Delta, Northeast, Alaska, American Airlines, FAA training departments. Swissair and SAS have indicated their interest in testing the individualized training method.

First edition, completed early this year, has been revised and expanded during testing, and, in final form, carries schematic diagrams and illustrations to supplement text.

Favorable comments on the new form of streamlined instruction, received from United Air Lines' training director, include such remarks as: "Material is presented in a logical, continuous progression which minimizes misunderstanding and can be readily digested . . . It is the opinion of the group (training instructors) that the material is given in a comprehensive and imaginative manner, which adequately enables the pilot to acquire the essential knowledge in minimum time."

The new step-by-step form of instruction has been tested on pilots of GD/Convair's production flight department, and also on Cathay Pacific pilots undergoing transition training in San Diego.

Results of these tests indicate that pilots totally unfamiliar either with the KIFIS or with programmed instruction techniques can cover the material in an average time of one hour and 45 minutes, compared to the usual three-hour classroom time. And, besides, they enjoy it!

"All the pilots who have tried the programmed method, have been most enthusiastic," said Selby. "We've found that they can absorb the same amount of material in 40 per cent less time than by the conventional lecture method. Grade average is approximately the same—92 per cent, or 23 correct answers out of a possible 25.

"However, pilots seem to grasp the subject material faster and better and say they feel as if they have a more thorough understanding when they complete the course."

The KIFIS system was chosen by Selby as a subject of wide interest, applicable for any pilot—commercial or military—who flies craft containing the system. Now, all jet transports, including Convair 880s and 990s, are equipped with the Kollsman instrument system to provide pilots with accurate information on the plane's true airspeed, maximum allowable airspeed, angle of attack, altitude, and outside air temperature.

The KIFIS manual is one of several GD/Convair Techbooks, copyrighted name of the division's programmed instruction manuals, now completed for use within the company or for outside marketing. Others deal with various phases of F-102/F-106 systems, such as the supersonic B seat; and jet transport integrated instrument panel.

An article by Selby on his experience in the programming field will be carried in a coming issue of the Journal of American Society of Training Directors.



"You'll *adore* this newest work pant . . . superbly styled . . . tiny hidden pockets that don't upset the delicate flow of smart tailoring."

GD/FW Engineering Talent Helps To Create Blood Cooling Device

A machine designed to lower body temperature during heart and brain surgery is now available in Fort Worth, thanks to funds furnished by Employee's Con-Trib-Club and over 4,000 manhours volunteered by a half dozen engineers.

The machine is used to drop blood temperature to 48 degrees Fahrenheit by circulating the patient's blood through the machine's myriad of stainless steel tubes and back into the body.

"The lower the temperature of the body, the less demand for oxygen by tissue and cells," said C. W. Cooper, engineering employees administrative group, who coordinated the two-and-a-half year effort.

"Since a cold heart needs less oxygen, it can be stopped or slowed down for longer periods than a warmer heart, giving the surgeon more time in which to operate. The same principle applies in the brain."

The need for such a machine was cited many months ago by a local surgeon. GD/Fort Worth Employees' Con-Trib-Club agreed to lend a hand, and a group of engineers "with medical interests" plunged into the difficult technical problems.

Hal Wesson, former GD/Fort Worth engineer who is a specialist in heat transfer and fluid flow, designed and constructed the main unit, including the electrical control system. Others built the heat exchanger which perches atop the machine.

Helping with the design and construction were J. W. Gash, engineering change control; Fiske Hanley, manufacturing development supervisor; and Don Cole, manufacturing research engineer.

Hanley and Cole solved some difficult manufacturing and development problems, while Gash spent many hours in his home workshop on the actual machining and assembly.

All of these men have for some time been quite interested in engineering ideas as applied to medicine.

Heart of the machine is a barrel-like unit which sits atop a larger component containing the regular air conditioning paraphernalia. It is about 30 inches long and 3½ inches in diameter.

A main tube contains the 70 small tubes, through which blood flows for cooling. Cold water is circulated inside the main tube and outside the smaller tubes.

The machine is designed to lower body temperature three degrees Fahrenheit per minute. When the operation is completed, the machine can be turned from cooling to heating.

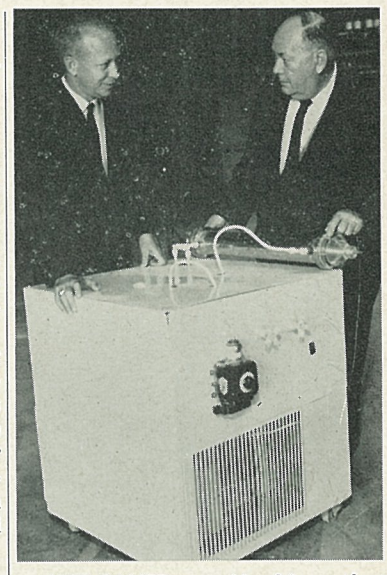
Tarrant County Heart Association also assisted in building the machine, which can be used where needed in the county.

The machine represents a vast improvement over previous methods used for lowering body temperature, a local surgeon said.

"Other machines for cooling the entire body have been developed since we started on this project," Cooper said, "but at the outset there was none except for the extremely cumbersome method of packing the entire body in ice for a period of several hours."

Such machines are quite expensive commercially, costing several thousand dollars. But the total cost for the one built by GD employees cost well under $1,000.

The secret to lower cost was voluntary help from many individuals, and donation of parts and material from several sources.



LIFE-SAVER — Machine that lowers body temperature during heart and brain surgery is discussed at Fort Worth by C. W. Cooper, left, engineering employees administrative group, and Milt Stewart, employee services representative.



VOLUNTEERS—Much of credit for designing and building components of heart machine goes to this GD/FW trio, from left: J. W. Gash, engineering change control; Don Cole, manufacturing research engineer; and Fiske Hanley, manufacturing development supervisor.

$1,000 Donated To Heart Fund

A new electrocardiogram machine for testing heart conditions will be bought with part of $1,000 donated July 24 to Tarrant County Heart Association by the General Dynamics/Fort Worth Employees' Con-Trib-Club.

Of the total amount, $633 was donated in lieu of flowers at the request of the family of the late V. C. Gillon, GD/Fort Worth director of program planning, who died June 20. The remainder was allocated by Con-Trib-Club.

The check was presented by Milton A. Stewart, member of the Con-Trib board of directors. It was received by Dr. John Marrietta, Heart Association president, at the organization's quarters in John Peter Smith Hospital.

In addition to the electrocardiogram machine, which costs approximately $900, the donation also will enable the Heart Association to further work on other equipment used in treatment of heart conditions.

The association, one of the United Fund agencies, makes its services available to anyone in the county.

MAYFIELD TEMPORARY MANAGER FOR NIGHTS

L. M. Mayfield, assistant superintendent factory second shift, has been named temporary night manager, succeeding Jack Haynes, who will be on vacation until Aug. 6 from GD/Fort Worth.

Blast 5,500 Miles Away Registers at Rochester

"It was a whopper!"

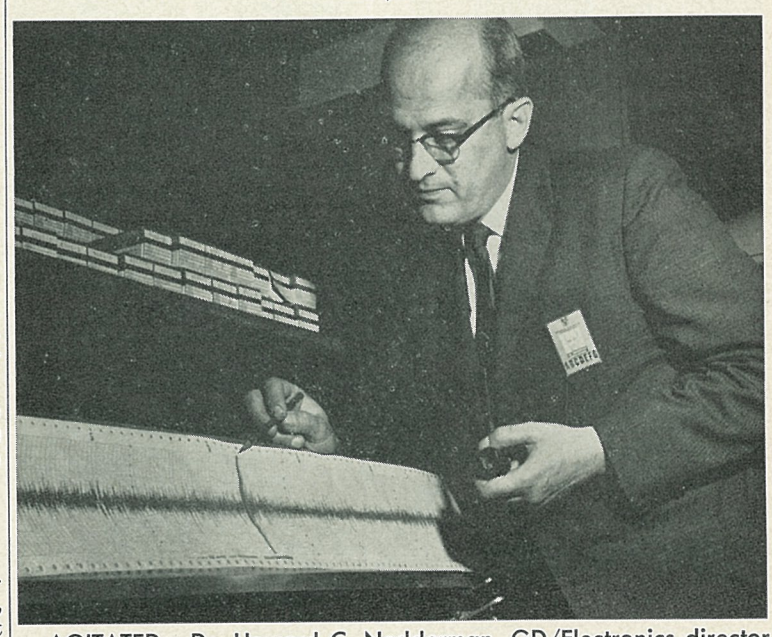
So General Dynamics scientists in Rochester, N. Y., described the magnetic reaction measured from the hydrogen blast high over the Pacific July 9.

A simple recording device set up by GD/Electronics research scientists at Hathaway Hill, near Rochester, reacted almost immediately to the effects of the blast over Johnston Island some 5,500 miles away. For about two minutes the needle on the recording chart jumped frantically, bouncing off the edges, leaving a thick solid line.

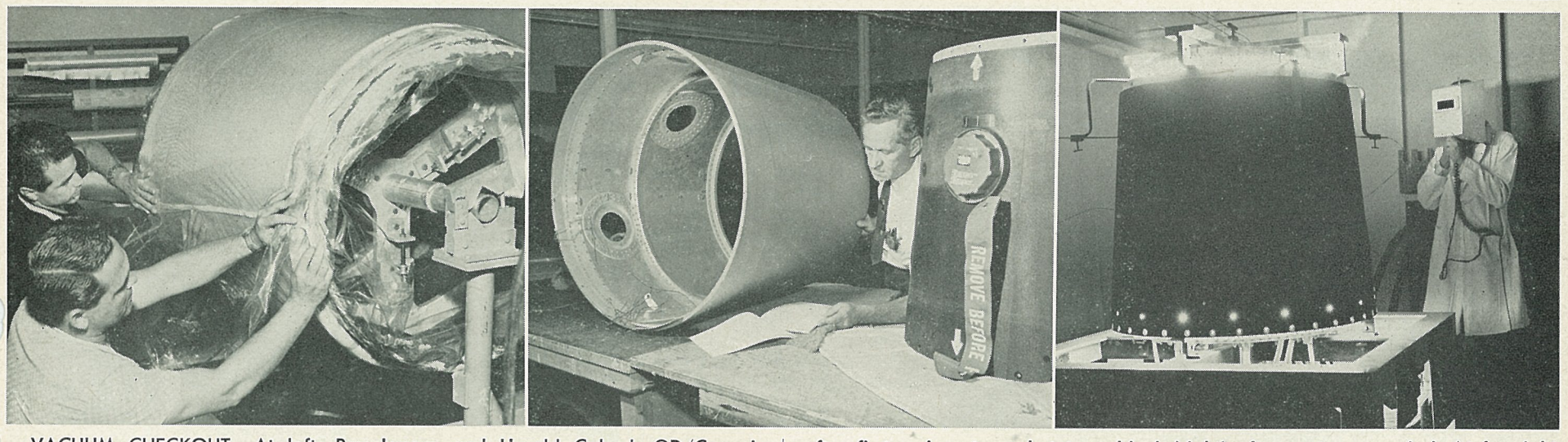
"Picking up the effects of such an explosion at this distance, on simple recording equipment, graphically shows that a large blast in the atmosphere can easily be recorded throughout the world," Dr. Howard C. Nedderman, director of research for GD/E at Rochester, said.

A team of Dynamics research scientists, headed by Dr. Raymond A. Santirocco, astrophysicist, had stood by at Hathaway Hill through the many nights when the explosion was originally scheduled. However, by the time the explosion actually took place their more sophisticated recording equipment was on its way to Bermuda for use in a study of flutters in the earth's magnetic field, under a contract with the Office of Naval Research. With Dr. Santirocco in Bermuda were Eugene Parker and James Dennison of GD/E.

The Bermuda study, similar to one conducted by the team in the Azores a year and a half ago, is seeking data which may shed light on limitations to space communications which result from geomagnetic fluctuations.



AGITATED—Dr. Howard C. Nedderman, GD/Electronics director of research at Rochester, N.Y., points to recording device reaction to hydrogen blast over Pacific, 5,500 miles away.



VACUUM CHECKOUT—At left, Ray Lucero and Harold Cabral, GD/Convair plastic fabricators, secure Minuteman missile assembly prior to pressure test. Inside is rubber "boot" that has been time-saver. In center, E. E. Carpenter, Dept. 128 assistant foreman, checks cone-like fiber glass assembly that is light brown (left) after first curing stage, but turns black (right) after post-cure period. At far right Dave Fletcher, structures lab test engineer, watches reaction of completed cone to 700-deg. temperatures on heat lamp. Heat checkout will be made on each unit at GD/Convair structures test lab.

Miniature Transponder To Survive Moon Impact

Experience gained in over 15 years of development and production of transponders will be utilized by General Dynamics/Astronautics in fulfilling a contract awarded by the Air Force Cambridge Research Laboratories (AFCRL).

Astro is to design, develop and construct a prototype lunar transponder to perform research on the moon's gravity, physical features and other general characteristics.

The transponder will weigh less than 10 pounds and will be capable of withstanding an impact on the moon about 3,000 times the force of its own weight on earth. It is a solid state electronic device which receives radio signals and retransmits them continuously at a different frequency.

Contract terms also call for a study of the requirements for four earth-based stations to track the transponder which will operate during flight to the moon as well as after impact.

In determining the distance from earth to the moon, AFCRL scientists will transmit to the transponder and record the number of cycles in the return signal beamed back to tracking stations. Radio signals make the 477,800-mile round trip to the moon at a mean distance from the earth in about 2½ seconds.

Astronautics' work on transponders dates back to 1946 when the Azusa missile tracking system was under development.

Astro-built transponders are installed on almost all missiles flown from Cape Canaveral. To date, they have been used on more than 400 missiles.

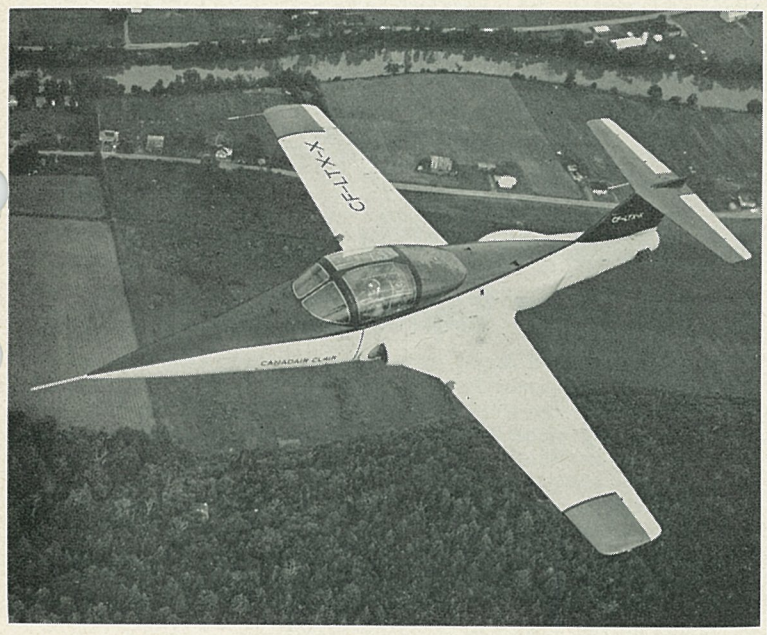
Early transponders weighed about 100 pounds. Current operational models weigh about 20 pounds as compared to less than 10 pounds programmed for the lunar transponder.

ROSENBAUM AMONG SEMINAR SPEAKERS

Mortimer Rosenbaum, executive vice president of General Dynamics/Astronautics, will be among speakers at a three-day seminar on technical communications Aug. 16-18 at California Western University, San Diego.

The Communications Technology Seminar, which will examine technical communications problems in this country and abroad, is sponsored by Cal-Western in cooperation with the Society of Technical Writers and Publishers.

Areas for discussion will include proposed four-year curriculae for degrees in communications; industry needs for better technical communications in management levels; information retrieval; and integration of present college courses and training into programs for different degrees in communications.



FIRST FLIGHT—New type of jet trainer, built by Canadair Limited of Montreal, is CL-41R. It carries full range of electronic systems used in F-104 aircraft.

Canadair Introduces New Type Jet Trainer For Economical Pilot Indoctrination

A new type jet trainer airplane, the Canadair CL-41R, made its first flight at Montreal last month.

Built by Canadair Limited, Canadian subsidiary of General Dynamics, the airplane carries the full range of electronics systems which equip the F-104, soon to enter service with NATO in Europe.

The trainer provides systems training for pilots at a fraction of the cost of training in operational aircraft. The CL-41R is a development of the CL-41A pilot trainer, of which 190 are being built for the Royal Canadian Air Force. Both are powered by General Electric CJ610-1B turbojet engines.

Canadair reported that the new trainer has ample capacity and is readily adaptable for electronics systems of other advanced military and naval aircraft.

The CL-41A has now flown more than 350 hours and is in full production at Montreal.

American Airlines Adding 990 Flights

Six 900 Astrojet flights will be added today (Aug. 1) by American Airlines with recent deliveries of the jet airliner by General Dynamics/Convair.

New Convair 990 flights leave New York at 2 p.m. for Chicago, and leave Chicago at 3 p.m. for New York; from Chicago at 8 a.m. for Cincinnati and New York, and from New York at 7:30 p.m. for Cincinnati and Chicago; from Chicago at 7:10 a.m. for St. Louis, and from St. Louis at 9 a.m. for New York.



QC CONFERENCE—General Dynamics quality control managers and aides met at GD/Telecommunication in Rochester recently, hosted by Clayton W. Holden, GD/Telecom's manager of quality control and inspection (seated at head of table).

SAC Hustlers Roaming Midwest In Practice Attacks Upon Cities

SAC Hustlers started "bombing" seven more cities—all in the Midwestern United States — on July 15.

The cities are Kansas City, Mo.; Omaha and Hastings, Neb.; Scenic Badlands, S. D.; Milwaukee, Wis., and Cleveland and Cincinnati, Ohio.

B-58s from 43rd Bomb Wing at Carswell AFB, Fort Worth, and 305th Bomb Wing at Bunker Hill AFB, Peru, Ind., will make simulated bomb drops on these cities at supersonic speeds over five 40-mile wide corridors.

Earlier, 15 cities on seven routes in eight states were listed as B-58 targets.

The simulated bomb drops will be scored by Air Force radar bomb scoring units and Army Nike sites at target cities.

The corridor for Cleveland and Cincinnati has entry points at Farmington, Mo., and Rockdale, N. Y. The Cincinnati-Milwaukee corridor has Asheville, N. C., and Minot, N. D., as entry points.

St. Louis and Boysen Reservoir, Wyo., are entry points for the Omaha-Scenic Badlands route. The other two corridors have Boysen Reservoir and Little Rock, Ark., as entry points.

During the flights, the B-58s will cause sonic booms along the designated corridors. Because of the high altitude, the sonic booms will be comparatively weak when they reach the earth's surface, SAC said.

Two 3070 Printers Marketed by GD/E

General Dynamics/Electronics at San Diego has sold two S-C 3070 high-speed electrostatic printers.

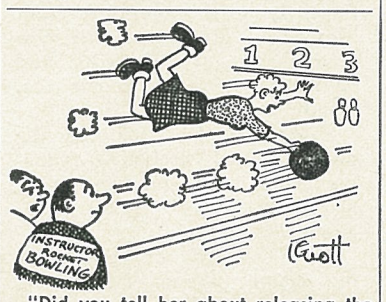
One of the printers was purchased by Texas Instruments, located in Dallas, Texas. The second printer was sold to the Redstone Arsenal at Huntsville, Ala., which will use it with a specialized computer on a classified project.

Business Budgeters Elect Three at SD

Two GD/Astronautics men and a GD/Convair man have been elected to top posts in the local and national organization of the National Society for Business Budgeting.

Arthur O. Brymer, GD/Astro budget supervisor, will head the San Diego Chapter as president for the 1962-63 term. Fred N. Minter, GD/Convair manager of indirect budgets, is new vice president.

John B. Morgan, GD/Astro manager of off-site accounting, recently was chosen national secretary-treasurer.



"Did you tell her about releasing the ball?"

Rubber 'Bag' Developed To Guard Missile Part

A rubber "boot" is cutting hours from General Dynamics/Convair's work during fabrication of assemblies for the Minuteman intercontinental ballistic missile.

Under an order from North American Aviation Co., subcontractor, GD/Convair is currently building 39 cone-shaped units, insulation for guidance housings. Boeing Co. is prime contractor for the Minuteman program.

First methods of lay-up of the fiber glass cone, which must go through a tedious process of buildup in two stages, showed that a great deal of time was necessary for "bagging," or preparing the part for vacuum pressurizing. It was taking three hours for plastic fabricators in Dept. 128, under direction of Lee Stamper, foreman, and E. E. Carpenter, assistant foreman, to prepare a unit for the first pre-cure operation.

R. L. Williaford of factory methods suggested that a heavy rubber bag be substituted for the conventional plastic material used inside during vacuum pressure check. Time was cut by more than half. Now, two men can bag the unit in less than an hour. Altogether, 148 manhours will be saved on the remaining 37 units.

In addition to a more efficient bagging operation, danger of vacuum leaks which could cause voids in the fiber glass, was eliminated. Using the heavy material, the cone can be placed on a tool fixture for processing throughout the complete sequence—bagging, pressurizing, curing in the oven.

The rubber, which withstands wear and tear on the tool, can be used over and over, for as many as 50 times. The plastic material could be used just once.

The cone is built up of many layers of fiber glass over an aluminum shell—when finished it has from 14 to 28 thicknesses molding the cone-like shape—pressed to steel-like strength.

It goes into the oven for four hours for first pre-cure from temperatures ranging from 180 to 300 degrees F., then back for another lay-up of more fiber glass layers, and pressurizing to force the fiber glass onto the shell. It is put back into the oven four more hours and then goes through a 20-hour post-cure cooking from 180-500 degrees.

Each unit must withstand a structural checkout at the GD/Convair structures lab under 700-degree F. temperatures on a million-watt heat lamp bank before final acceptance.

Dynamics Sends 19 To Nuclear Course

Nineteen General Dynamics men last month attended a Guided Missile, Rocket and Nuclear Weapons Safety Conference at Naval Air Station, San Diego, and successfully completed the three-day course.

Attending from GD/Pomona were T. R. Smith, safety supervisor; J. O. Bailey, Dept. 22; M. R. Jackson, Dept. 7; L. V. Kilpatrick, Dept. 6; J. H. Pikus, Dept. 21; A. L. Pruitt, Dept. 7; E. W. Shaffer, Dept. 25; D. I. Turner, Dept. 27.

W. O. Borden, safety engineer, and D. G. Abshier, Dept. 581-4, attended from GD/Astronautics, while GD/Convair sent M. C. Val Dez, senior safety engineer; D. D. Dimmitt Jr., fire chief; W. P. Easley, R. K. Jepperson, A. W. Kellogg, J. E. Lampman, all Dept. 6; I. L. Beauchamp, Dept. 3-5; S. W. Rowland Jr., Dept. 3-6; and A. C. Oehler, Dept. 31.



GIANTS—Huge dahlias dwarfing Astro's Nancy Vouaux, Dept. 602, are sample of those to be shown at ARA-CRA Garden Clubs' joint Summer Show, Floral Association Bldg., Balboa Park, Aug. 12. Dahlias, vegetables and arrangements will be exhibited 1 to 6 p.m.

Dahlia Growers Groom Entries For ARA-CRA Summer Show

Forty-one different classes are open to GD/Convair and GD/Astro dahlia growers who plan to exhibit in the coming Summer Show sponsored jointly by CRA and ARA Garden Clubs.

One of the two large shows held annually by General Dynamics flower clubs, ARA Commissioner Everett Henderson and CRA Commissioner E. L. Zimmerman expect the largest turnout ever at the Aug. 12 display.

Entries will be accepted at the Floral Association Bldg. in Balboa Park from 7 to 11 a.m. on show day. Doors will be open to the public, following judging, from 1 to 6 p.m.

Four main divisions for dahlia exhibits are: one medium or large bloom, over four inches in diameter; one cactus or semi-cactus, over four inches in diameter; three pompons, less than two inches in diameter; three miniatures or balls, two to four inches in diameter.

Other show divisions are open for citrus and deciduous fruits, vegetables, arrangements and corsages, and children's displays.

Best of show awards will go for best dahlia, largest dahlia, smallest dahlia, best citrus, best deciduous, best vegetable, best arrangement, best corsage, and best children's entry.

All specimens entered must be grown by the exhibitor.

Sailplane Pilots Earn Credits Toward International Awards

Three General Dynamics soaring experts piled up credits toward international awards during a weekend flying session from Inyokern on July 14-15.

Gene Whigham, CRA commissioner, and Duke Stallings of GD/Astro completed all requirements for the Federation Aeronautique Internationale gold C badge with one diamond with their goal and distance flights.

Walt Mooney of General Atomic gained 10,500 feet altitude above release as a leg toward the same award.

Whigham took off in his original design sailplane a little after noon on Saturday on a goal flight from Inyokern to Bishop and return to Grant's airport, a distance of 205 miles. A cloud "street" under a cumulus cloud formation gave him a straight shoot from the south end of the White and Sierra Mountains to Bishop. On the return flight he maintained an altitude of between 14,000 and 15,000 feet while cruising 80 miles an hour on a straight course for 65 miles.

Stallings followed Whigham a half an hour later in a Schweizer 1-23 over the same course.

The next day Whigham attempted a flight from Inyokern to Elsinore but was forced down near Apple Valley for a flight of 95 miles.

Hours For Salvage Sales Established

Salvage yards at GD/Convair and GD/Astro are open for employee sales on the following alternating Saturday schedule:

GD/Convair—Aug. 4, 18.

GD/Astro—Aug. 11, 25.

Sales hours are 8 a.m. until noon at both Plant 1 and Kearny Mesa sites.

Deadline Next Week For Mexico Tour

General Dynamics travelers may still sign for the coming two-week tour of Mexico—if they hurry.

Jim Hardison of GD/Convair, who is organizing the trip at reduced prices for GD/Convair, GD/Astro, GD/Electronics people and their families, said that a few openings remain. Next week will be deadline for registering.

Tour dates are Aug. 17 to Sept. 2, with departure from Mexicali. Itinerary includes Guadalajara, Mexico City and environs, Taxco, Cuernavaca, Acapulco, Puebla.

Price will be $350 for the package deal, including transportation, food and lodging, if as many as 30 travel in a group.

Hardison may be reached at his home phone, BR-6-5805, evenings, for details.

Silver Service Prizes Await Trap Winners

Prizes of silver service await winners in CRA-ARA Gun Club's registered trapshoot Sunday (Aug. 5), 10 a.m., at Gillespie Field Range.

Scheduled events are 16-yard, handicap and doubles, each event consisting of 100 targets per shooter.

Silver service will be awarded winners in doubles and five separate classes in 16-yard shoots. Handicap champs will collect prizes for winner, runner-up, high junior and high lady.

CRA Commissioner Jack Swank emphasized that all GD/Astro, GD/Convair and GD/Electronics newcomers are eligible and invited to compete.

"Beginners without equipment are welcome as we furnish guns and instruction at all Gun Club meets," Swank said.

Gun Club shoots are held every Wednesday and Friday evening at 6:30, and the first Sunday of each month at Gillespie Field.

Dan Witkoff, 15, son of Sam Witkoff, GD/Convair quality control, picked up a shotgun for the first time recently and blasted 23 out of 24 birds. Witkoff said the boy's only practice was shooting at butterflies with a B-B gun!

AES Will Hear Scripps Study

General Dynamics members of the Aerospace Electrical Society will hear a talk on cardiac automatism and its relation to space medicine at the Aug. 9 meeting, 7:30 p.m., in Balboa Park's Puppet Theater.

Dr. David Jensen of Scripps Institution of Oceanography will discuss his heart research findings based on studies of the hagfish, a primitive bottom-dwelling fish with three hearts. Instruments and techniques used to acquire information will be explained in relation to their possible application in space medicine. Slides and movies will supplement the lecture.

An August family picnic is in planning stage with members to be notified of the date, said E. F. Kotnik of GD/Convair Dept. 6, president.

For information call Kotnik, ext. 2724, W. T. Dorrance, ext. 2168, both GD/Convair Plant 1; C. F. McCabe, ext. 2244, or Robert Kulick, ext. 1818, both GD/Astro main plant.

YOUNGSTERS WIN NOVICE TOURNEY

The younger set dominated play in the recent CRA-sponsored novice tennis tournament open to players from both GD/Convair and GD/Astro, held at Morley Field courts July 7, 8, 14 and 15.

Administered jointly by Pete Beyrer, CRA commissioner, and ARA Commissioner Ben Cendali, the event attracted more than 50 hard-court fans, with 40 singles entries and 14 doubles teams.

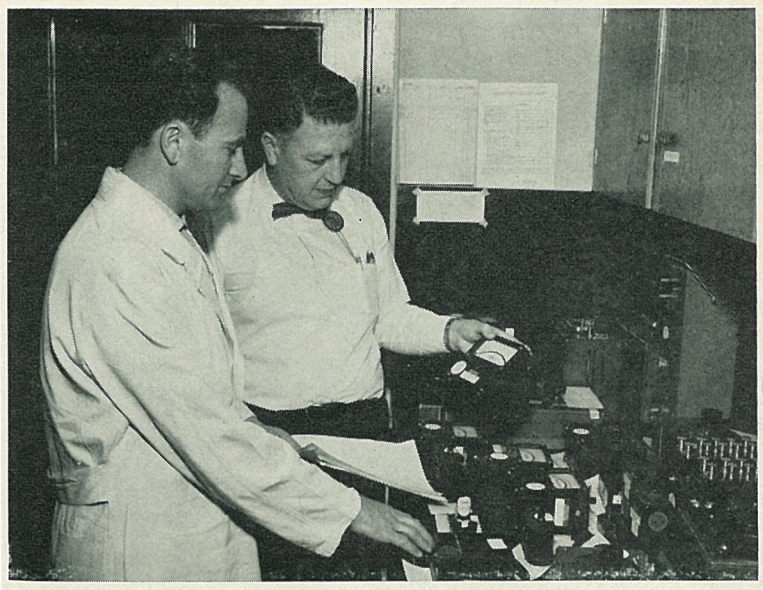
In singles finals Marshall Cheung, son of Astro's L. T. Cheung, defeated Dave Bennett, son of Astro employee E. F. Bennett, 6-4, 6-3.

Young Cheung then teamed with partner E. Freeman to down the father-son duo of Convair's Dick Trout and son Dennis, 4-6, 7-5, 6-3 for doubles honors.

CRA provided balls and trophies.



"I'm getting sick and tired of being introduced as your stablemate."



VIENNA IMPORT—Al Spitzer (left), native Austrian, checks over electrical items at GD/Convair with W. A. Dershem, in charge of primary standards lab.

Wartime Training

Salary-Less Apprenticeship Recalled by Former Viennese

Learning a trade in the midst of air raids, an experience few apprentices in this country have had to combat, still is vivid in the memory of a young man in the General Dynamics/Convair primary standards laboratories.

Al Spitzer, who now calls San Diego home, began his training at the age of 14 in his native Vienna, Austria, during World War II. In fact, his future career was settled at the age of 10, a usual custom, he said.

"My mother decided that I should be apprenticed in 'Feinmechanik,' or general mechanical training. She was seriously considering watchmaking at the time, but finally chose the mechanical field as the better trade."

His mother's choice started Spitzer on the path which landed him at GD/Convair over eight years ago as a meter calibration and repair technician in the standards lab.

Spitzer began his apprenticeship in 1942, during the German occupation of Austria, under a certified master of the trade in a small shop which manufactured and calibrated meters. During the three-and-a-half years of his training he worked from 6:30 in the morning to 5:30 p.m. at no regular salary.

"Employers gave apprentices a small allowance for spending, equivalent to $2 or so a day. This was just enough for transportation and a movie once in a while."

He remembers that one of the greatest annoyances during the war, besides the lack of food, was having to carry the precious standards used for calibration to the air raid shelter every time an alert was sounded.

Business was maintained on a fairly even keel with few disruptions until near the end of the European war in 1945. For several months after the Germans retreated and before a stable government could be set up, there was no electricity or power of any kind—street cars stopped running and everything came to a halt.

"It was useless to even try to get to work. Our main thought was to keep off the streets and out of sight," Spitzer remembered.

After he received his journeyman's rating in the summer of 1945, he came to the United States with the help of his father, a naturalized citizen then living in Chicago. Spitzer worked over four years in the X-ray division of General Electric Co., until he was drafted into the Army Signal Corps during the Korean War. He spent his tour of duty as instructor in an electrical instrument repair school in Georgia.

Upon his discharge, an advertisement from the GD/Convair standards lab in the Chicago Tribune fulfilled his dream of coming to California.

He made his first trip home last year with his wife, Barbara, a native of San Diego. "But, even with conditions back to normal and better than I ever remember in my childhood, I wouldn't want to go back," he said. "I'm an American now and feel that this is my home."

Air Explorers Ready to Shoot Rogue River Rapids by Raft

Thirty-two excited boys, most from General Dynamics families, will pile into trucks this Friday for the first leg of an adventure that will take them shooting down rugged river rapids to the ocean before they see home again, two weeks from now.

Weeks of rigorous preparation will pay off as the teen-agers, all 16 to 18, match muscles with the 67 rapids of the Rogue River on the 89-mile stretch from Grant's Pass, Ore., to the Pacific Ocean. The boys, all members of the GD/Convair Management Club-sponsored Air Explorer Squadron 340, have spent almost two months getting their equipment together and learning to handle their rubber boats.

Gene Boyd, squadron adviser and Management Club board representative, who has shot the Rogue rapids twice before with other Explorer groups, will direct operations. Other adult advisers making the trip are Jim Megargee, GD/Convair Dept. 48, Ken Kerr of GD/Astro, and Nate Wells of the city park commission.

When the intrepid river runners grab their paddles next Monday morning as they push into the river near Grant's Pass they will leave civilization behind for 12 days. During that time they will be entirely dependent upon themselves in a remote wilderness.

"I have never ceased to be amazed at the ingenuity of these boys when faced with a challenge," said Boyd. "In fact, they take excellent care of their adult advisers!

"When they return as hardened river rats they will have a store of memories they'll never lose. And such names as 'white waters,' Ramey Falls, Horseshoe Bend, Two-Mile Rapid, Mule Creek will be part of a new vocabulary, each name conjuring visions of experiences, perhaps even hardships, few people know.

"I come back from every such trip wiser and more thankful that there are still people interested enough in the youth of the community to sponsor such programs."

Recreation associations at both GD/Convair and GD/Astro will join the GD/Convair Management Club in taking care of the cost of the trip—estimated at near $2,000. Each boy pays $35 for his own food supply.

Sports & Recreation

Unbeaten Teams Clash Tonight To Decide 'Slow Pitch' First Half

Two unbeaten teams pulled farther out in front in GD/Convair's "slow pitch" softball league play July 18.

GD/Convair Electronics extended its streak to five straight by trouncing GD/E Production Control 27-6. Keeping pace, also with a 5-0 record, was Stores & Dispatch Plant 1 who edged Manufacturing Control Plant 2, 9 to 7.

Hi-Lows moved into third place with a 6-5 squeaker over GD/E Purchasing and winless Accounting dropped a 19-10 slugfest to Fire Department.

Tonight's (Aug. 1) play closes the first half of the split-season when GD/Convair Electronics and Stores & Dispatch Plant 1 meet to decide the first-half crown.

Spectators are promised lots of action at Latter Day Saints field, 47th and Oceanview Blvd., 8:15 p.m., tonight. First game is at 6:30 p.m. No admission is charged.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Meeting and indoor flying session Aug. 6, 7:30 p.m., North Clairemont Community Center, 4421 Bannock Ave. Open flying sessions each Saturday and Sunday, 7 a.m.-1 p.m., Clairemont Mesa Flying Site.

ARCHERY — Open shoot Aug. 12, 9:30 a.m., Balboa Park Field Range.

BRIDGE CLUB—General Dynamics players eligible to take part in weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts. Special summer rates in effect.

CAMERA CLUB—Next meeting Aug. 13, 7:30 p.m., Photo Arts Bldg., Balboa Park.

GARDEN CLUB — CRA-ARA Summer Show Aug. 12, Floral Association Bldg., Balboa Park. Entries accepted 7-11 a.m. Doors open to public 1-6 p.m.

GOLF — Entries open today (Aug. 1) to Aug. 6 for CRA tournament at Coronado, Aug. 11-12. Call ext. 1705, Plant 1.

GUN CLUB—Registered trapshoot Aug. 5, 10 a.m., Gillespie Field range. Open shooting Wednesday and Friday nights during summer months.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot Aug. 12, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (Aug. 2), 8 p.m., Harbor Drive headquarters.

RIDING CLUB — Meeting tomorrow (Aug. 2), 7:30 p.m., Gillespie Field Clubhouse.

ROAD RUNNERS — Next weekend outing Aug. 10-12, Laguna public campgrounds.

SOFTBALL — First round of plant "slow pitch" softball league ends tonight (Aug. 1), Latter Day Saints field, 47th and Ocean View Blvd.

SPORTS CAR CLUB — Meeting tonight (Aug. 1), 7:30 p.m., Convair executive dining room, Pacific Hwy. Club tour event Aug. 12.

SWIMMING — Next free family swim night Aug. 4, Mission Beach Plunge, 7-9 p.m. Tickets at employee services, Bldg. 32, Plant 1.

TROPICAL FISH CLUB — Meeting Aug. 14, 7:30 p.m., CRA Clubhouse.

WATER SKI CLUB — Regular skiing sessions Saturday mornings, 8-11 a.m., off Santa Clara Point, Mission Bay. Call Gene Sevigny, ext. 1657, or Jack Loos, ext. 2456, Plant 1.

Hampton Wins Fishing Honor

Sam Hampton took first prize, in fact the only one, for the CRA fishing contest for June awarded at the July 17 Fishing Club meeting.

Hampton, retiree from Dept. 31, took the award with a 19-lb. yellowtail reeled in off Coronado Islands.

All GD/Convair and GD/Electronics anglers are urged to untangle their tackle and try deep waters for good catches. "Albacore is in now," said Bob Menzie, CRA commissioner, "and the marlin is just starting, so now's the time to try your luck."

Catches can be entered at CRA headquarters, ext. 1245, Plant 1, where information and entry forms are available. All entries are eligible for the CRA group's monthly awards.

Hampton, George Clark, Mr. and Mrs. Menzie supplied the 90 pounds of filleted corvina, caught at Salton Sea, to fill up the 50 members at the July 17 fish fry which followed the business meeting at Gillespie Clubhouse.

La Jolla Playhouse Discount Available

Discount coupons for La Jolla Playhouse performances are available at employee services, Bldg. 32, Plant 1.

GD/Convair and GD/Electronics employees save 20 per cent of regular orchestra ticket price by exchanging coupons at box office, Walker Scott Co., La Jolla.

Remaining shows this season are "Critic's Choice," a comedy, Aug. 7-9, 14-16, and "Little Mary Sunshine," musical, Aug. 21-23, 28-30. Playhouse performances are held in La Jolla High School auditorium, 750 Nautilus St.

For reservations call GL-9-2687.

Riding Club to Set Date for Barbecue

Date and arrangements for CRA Riding Club's annual summer barbecue will be made at the meeting tomorrow (Aug. 2) at Gillespie Field Clubhouse, 7:30 p.m.

All members are urged to be present to join in the discussion, said Tommy Thomason, club president.

Discount Offered On Fishing Trips

Exchange tickets for half-day fishing trips are available to GD/Convair and GD/Electronics fishermen at employee services, Bldg. 32, Plant 1. They are good for a dollar reduction on regular $5.50 trips when exchanged at Seaforth Landing, 1641 Quivira Road, Mission Bay.



LUXURY MODEL—Sleek cabin cruiser, 25-ft. fiber glass craft built and outfitted by CRA as prototype in boat building program, rides at anchor at Shelter Island dock.

Sports Drivers Will Plan Tour

Plans for an Aug. 12 club tour event will be discussed by members of CRA Sports Car Club at tonight's (Aug. 1) meeting, 7:30 p.m., in the executive dining room of the GD/Convair cafeteria, Pacific Highway.

Fred Thatcher, GD/Convair Dept. 24-3, will outline plans for the tour. Added attraction will be the movie, "1960 Le Mans."

Club members turned out 50 strong at the International House of Pancakes on Rosecrans St. July 15 in appreciation of professional pancake batter furnished for the recent outing at Pine Crest.

CRA Commissioner Gerry Wright reminds all GD/Convair and GD/Electronics employees that they are welcome to attend meetings and join in activities.

Regular meetings are held the first Wednesday of each month.

Modelers Plan Indoor Flying

Summer and fall plans for CRA Aeromodelers activities will be drawn up at the Aug. 6 meeting, 7:30 p.m. in North Clairemont Community Center, 4421 Bannock Ave.

Regular meeting and contest schedules for the next six months will be planned, said Don Larsen, club president.

After the business meeting an indoor flying session using hand-launched gliders and rubber-powered models will be held in the gym. The club will supply the rubber-powered models. Prizes will be awarded in separate categories for men, women, and children. A door prize also will be given.

"We urge everyone to turn out," Larsen said, emphasizing that Aeromodelers is a family activity.

GD/Convair and GD/Electronics personnel interested in Aeromodelers activities may call Larsen at ext. 2289, Plant 1.

Tickets to Tijuana Events Available

Free tickets to top "south-of-the-border" attractions are available at employee services, Bldg. 32, Plant 1.

GD/Convair and GD/Electronics employees may pick up tickets to jai alai games, Fronton Palacio, and both horse and greyhound racing at Caliente Racetrack, Tijuana, on a first-come, first-served basis.

GD/Convair and GD/E Swim Night Planned

Mission Beach Plunge will be the scene of a "swim night" Saturday (Aug. 4), 7 to 9 p.m.

Free tickets for GD/Convair and GD/Electronics employees are at employee services, Bldg. 32, Plant 1.

De Luxe Cabin Cruiser Is Pride of CRA 'Fleet'

CRA's prototype 25-ft. cabin cruiser has been completed and fully equipped as a de luxe model in the recreation association's most ambitious boat building program.

The outfitted cruiser as it stands now is comparable in value to boats selling for at least $9,500, said J. K. Field, chief of employee services.

Accommodations include a galley with sink and 20-gallon water tank, lavatory, table and benches which convert to bunks sleeping four, 70-gallon fiber glass tank for fuel, Raytheon depth finder, and 30-watt ship-to-shore radio. It is powered by a 215 hp. Interceptor marine engine and equipped with safety items, including horn and lights.

The interior is lined with mahogany, and naugahyde ceiling. The exterior cockpit is roomy enough for four people to fish comfortably and has canvas top plus a cover for weather protection.

The 25-ft. boat was developed as an aftermath to the 16-ft. fiber glass boatbuilding program which has seen at least 1,000 built during the last five years.

CRA's Fishing Club and GD/Convair hydrodynamics engineers joined to produce the design for the 25-ft. hull which passed water tests on San Diego Bay last year with a perfect score.

Master for the hull mold was made by plant tooling on a CRA work order. Molds for hull and cabin have been used to turn out nearly a dozen boats by GD/Convair people fulfilling dreams of boats large enough for deep sea fishing or family cabin cruising.

The molds still are available for groups working as teams on an assembly-line production, said Field. The 25-ft. craft can be made and equipped for around $2,500, nearly a quarter of retail cost of such a boat.

Boat builders interested in using CRA molds and equipment may get information from Pete Beyrer of the CRA office, ext. 1245, Plant 1.

Discounts Available For 'Frontier Town'

Discount tickets to Big Oak Ranch's "Frontier Town" are available to GD/Convair and GD/Electronics employees at all employee services outlets.

"Frontier Town" is an authentic replica of a typical Old West City. Big Oak Ranch offers dancing, swimming in heated pool and picnicking for admission price of 50c, adults, and 35c, children 5 to 12, with CRA exchange tickets.

The ranch, open Wednesday-Friday, 1-10 p.m., Saturday and Sunday, 10 a.m. until dark, is located east of El Cajon off Dehesa Rd.

Tickets may be obtained from Virginia Cannon at Rose Canyon; Leonard Smith, ramp; Juanita Jones at GD/E Hancock St.; and employee services, Bldg. 32, Plant 1.

Road Runners Schedule Outing In Mountains For Mid-Month

CRA Road Runners will be heading to the mountains for their mid-August outing as they make plans to spend a weekend at Laguna public campgrounds.

Ed Wawrsynski will head the Aug. 10-12 trip to Laguna Mountains as wagon master with Ted Weinberg assisting.

Members of GD/Convair trailer group will take an active part in arrangements for the annual rally of Travel Trailer Clubs of America, Border District, at Del Mar next month. The group will handle parking at the rally, and entertainment for children. Ed Miner will head the parking committee and Iris Scholl will have charge of children's entertainment.

Road Runners delegation at the Border District TTCA planning session included George Hurley Jr., club president, Carl Scholl, Bill Hamilton, Lee Kunkle, Miner, and Ivar Peterson. Peterson will be assistant to Dick Doke, general chairman of the rally and governor of the Border District organization.

Nearly 90 travelers gathered in 22 trailer units to enjoy a weekend over July 20-22 at Hulburd's Grove. Swimming, dancing, games, potluck dinner, and just relaxing occupied the weekend for families and guests, including Jim Shinn, GD/Astro trailer club president, and family.

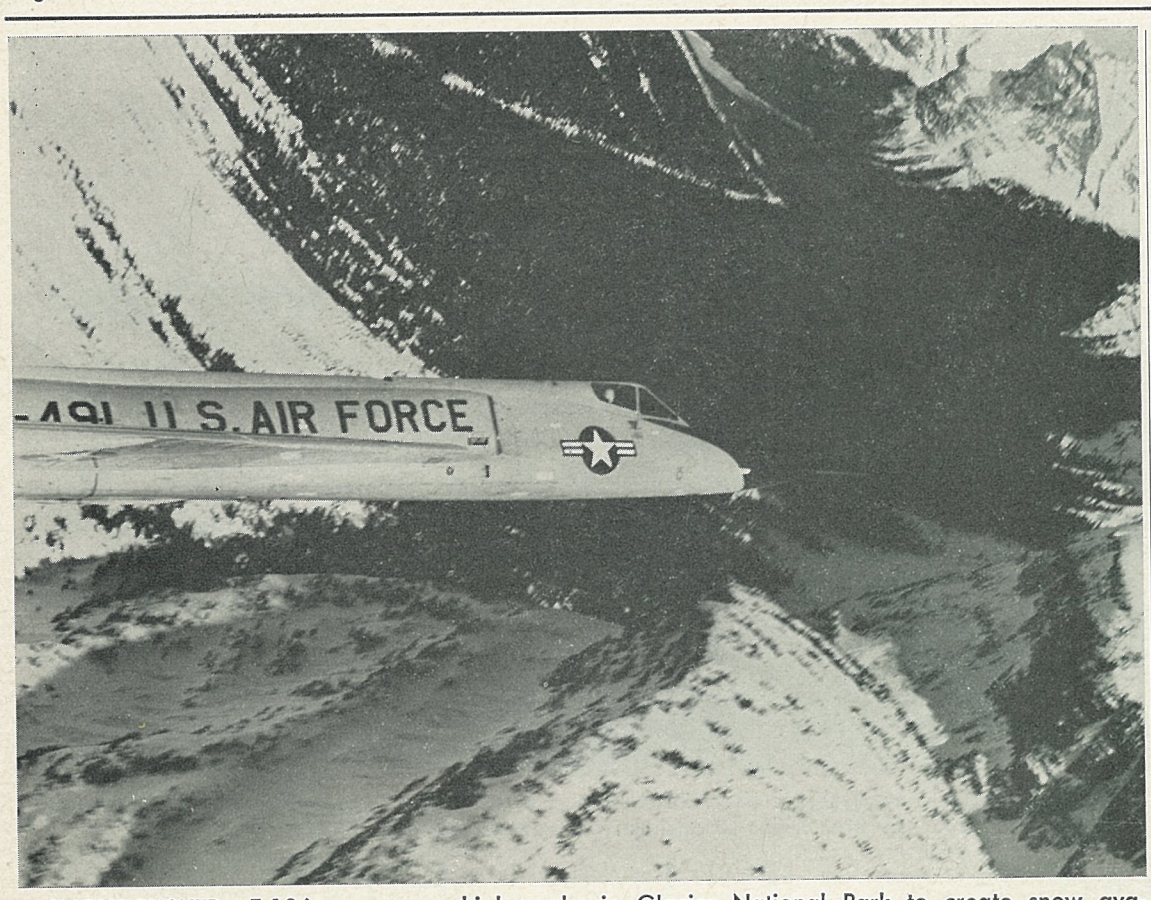
Several birthdays and anniversaries were observed, including the 25th wedding anniversary of Ray Devin, the club's square dance caller, and wife, Loretta.

Entries Open to Aug. 6 For Next CRA Tourney

CRA golfers will have their last chance to get in practice for the annual plant championship at the Aug. 11-12 tourney over the Coronado course.

Entries open today (Aug. 1) and close next Monday (Aug. 6). They may be made by calling ext. 1705, Plant 1.

Ken Wulfemeyer, CRA commissioner, reminds GD/Convair and GD/Electronics linksmen who plan to compete in the September championship tournament that they must have played in at least three CRA monthly matches to be eligible.



SNOW PUSHER—F-106 zooms over high peaks in Glacier National Park to create snow avalanches with sonic booms before they become danger to traffic below. Air Force photo was shot by 1st Lt. David Rogoway from accompanying plane.

F-106 Sonic Booms Clear Peaks of Shaky Snow

A jet age solution to an age-old problem has sent Convair F-106s zooming over high mountain peaks deliberately creating sonic booms to dislodge tons of snow for the third season.

In "Operation Safe Slide," begun as an experiment three years ago, F-106s from 498th Fighter-Interceptor Squadron at Geiger Field, Wash., have been causing snow slides within Glacier National Park to make it safe during the summer vacation season.

The man-made avalanches have dislodged snow accumulations that have menaced men and equipment for years, says the National Park Service. In 1953 two lives were lost when an unexpected slide swept away a crew clearing a park road.

Jet shock waves prove more durable than the former dynamite method, too, as they are well beyond the range of curious bears. (The park's ubiquitous bears seem to relish the taste of dynamite and gobbled it up for their first spring meal before park engineers could push the plungers on the detonators!)

F-106s fly at low altitudes, around 10,000 feet, at supersonic speeds, directing shock waves at specific snow targets. Missions can be accomplished only under ideal weather conditions on a clear day following a fresh fall of snow.

They have been able to cause snow slides before the snow can become a danger, or pack it to prevent slides later, reports General Dynamics/Convair field service representative, Troy S. Vaughan, supporting F-106s of the 498th.

"Operation Safe Slide" was first tried in the spring of 1960 as a joint project of the Air Defense Command and the National Park Service. (**General Dynamics NEWS**, Feb. 3, 1960.)

NASA Sponsors Solder Course

L. E. Cook of General Dynamics/Convair educational services will attend a special course in soldering techniques sponsored this month by National Aeronautics and Space Administration at El Segundo, Calif.

The two-week session (Aug. 6-17) is being given by the quality division of NASA's Marshall Space Flight Center to define reliable methods of soldering and electrical/electronic equipment assembly meeting NASA requirements.

First week at the School for Reliable Electrical Connections, as the program is known, will be devoted to technical training and the second to instructor training. Attending the course will be NASA personnel, Department of Defense inspectors on NASA contracts, and representatives from companies engaged in NASA work.

Special Process Developed To Produce Two-Color Film

A breakthrough in a little-explored field has been achieved by General Dynamics/Convair quality control laboratory technicians in developing a method of dyeing plastic sheets, half one color and half another, with the colors sharply separated.

Polyester film, two feet long, eight inches wide, must be half blue and half orange for use as an optical filter across the cathode ray tube indicator screen in radars built by GD/Electronics at San Diego.

The plastic works on rollers like a window shade, drawn back and forth across the screen. The orange half of the filter is used when the screen is used for radar scanning mode, the blue half for the television mode.

"The colors in the optical filter must allow at least 79 per cent of the screen's light to be transmitted through it," explained John Barrett, GD/E manager of inspection, who turned to the GD/Convair laboratory for a solution after GD/E's purchasing department searched in vain for a suitable source of supply.

"After combing the country for weeks to find a company that had any experience with this type of work, we located only one vendor who would even attempt the task. And, then on a no-return basis.

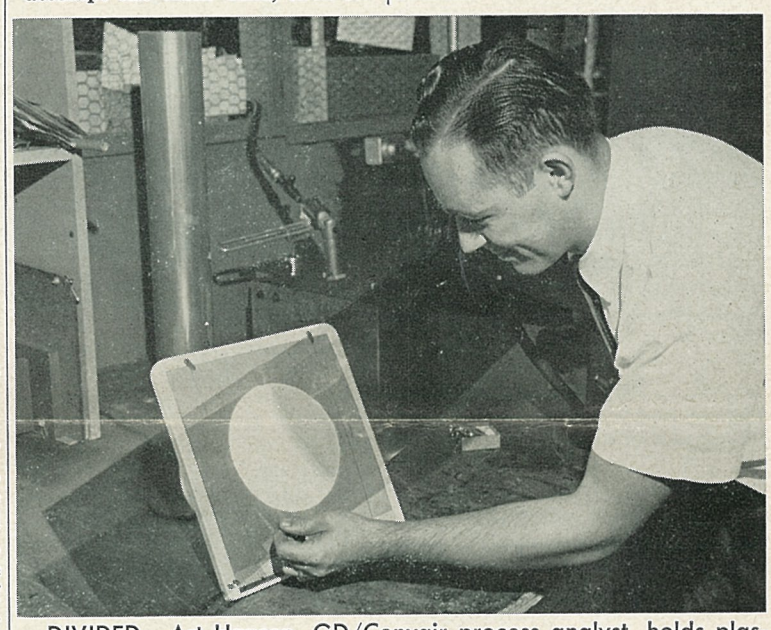
"Quality was so poor, with colors blurred and overlapping, that we could use only about two out of 63, skyrocketing the cost to an exorbitant figure. We were spending over $200 apiece for a usable sheet, after rejects. Original price was $16 each.

"The unusual know-how developed by GD/Convair's quality control lab has cut the cost to around $4 a filter. And, most important of all, even in experimental stage, more than three-fourths of the dyed sheets have been acceptable!"

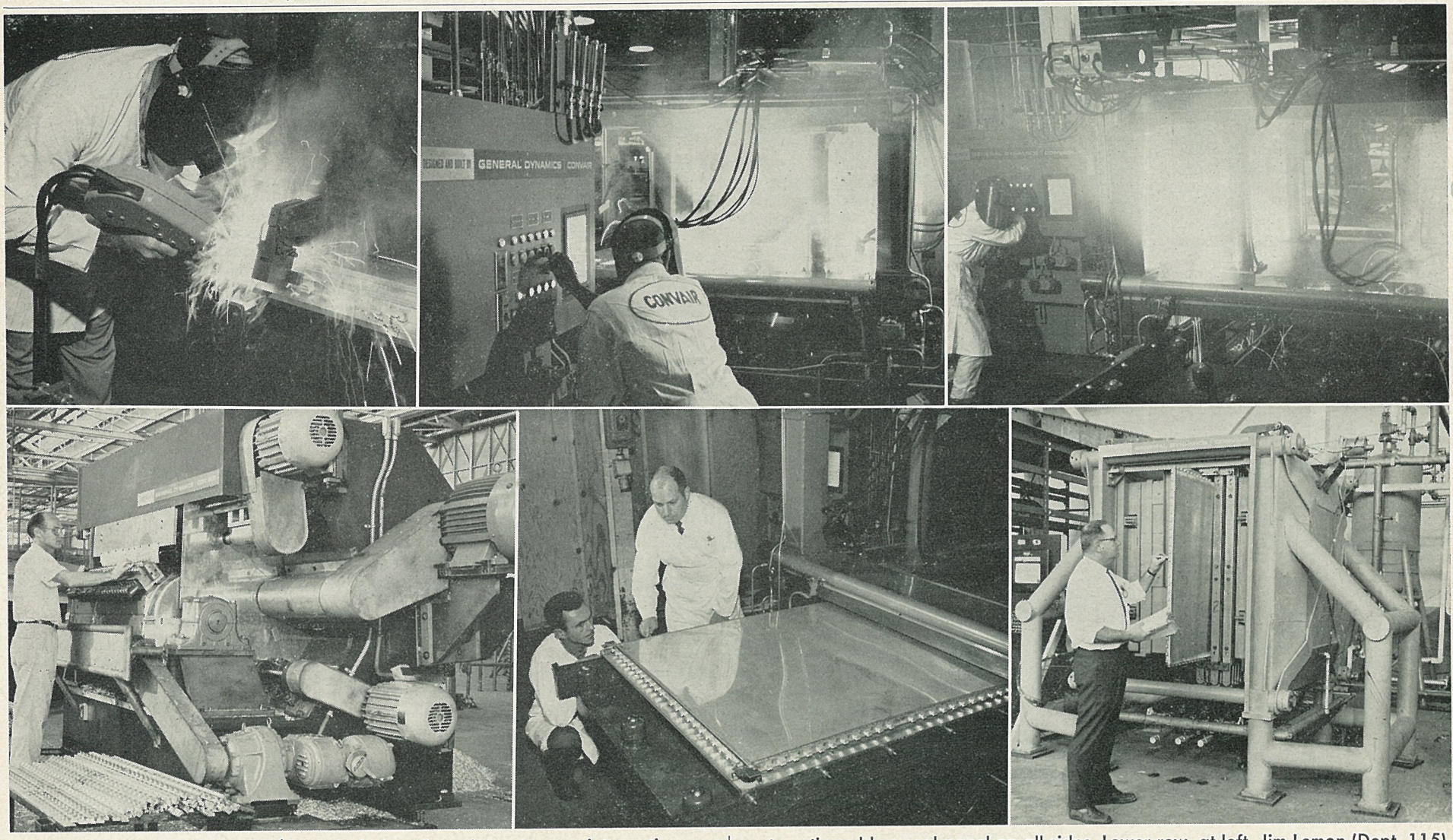
Sam Witkoff, quality control assistant supervisor, credits A. N. Hansen, process analyst, with coming up with the new dye method.

Months of trial and error went into dyeing transparent Mylar plastic before the right combination of oil dyes and heat was found. Now, the film can be impregnated with colors which can't come off or be removed by solvent and which meet evenly with a clean separation of color.

Other assists given by the GD/Convair laboratory to its sister division include development of suitable silver plate for wave guides and IF chassis and checking manufacture of etch circuit boards.



DIVIDED—Art Hansen, GD/Convair process analyst, holds plastic against light to show sharp division of colors (blue at right, orange at left) achieved by new dyeing method.



SPEEDY PRODUCTION—GD/Convair-designed equipment goes into action on pre-production panels for portable landing fields in SATS MATS program at San Diego facility: (top row) photos of automatic welding machine bursting into action. At left, Bill Hutto hand-welds on corner welding machine before panel goes into main welder. Center and right, Wyatt Ingram of applied manufacturing research and development is at controls during 40 seconds of blazing fireworks as four automatic welders seal panel on all sides. Lower row, at left, Jim Lemon (Dept. 115), machine operator, turns out edge members for mats on unique milling machine. Four are milled each minute. In center, Pete Lusk and John Murphy, both Dept. 23, inspect welded panel ejected on conveyer bed of automatic welder. At right, Warren Hoyt (Dept. 23) checks panel during pre-production proofing of GD/Convair-designed vertical bonding machine.

GD/Convair Setting Fast Cost Reduction Pace

Almost two-thirds of General Dynamics/Convair's 1962 target savings through employee Suggestions and Cost Improvement Proposals was reached in the first six months of this year.

Over a million dollars of the $1,669,000 goal for the entire year was piled up by the end of June in indicated savings through approved and installed proposals. Exact amount stood at $1,017,812.

Of this total, 155 approved CIPs accounted for $943,070; 183 ESs for the balance, $74,-742.

Awards of $7,675.99 have been paid to hourly employees

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authoring the approved Employee Suggestions.

Since the first of the year, 321 CIPs and 423 ESs have been submitted to the cost reduction section. Approximately 150 of these are still being processed. Decisions will be reached on each one as soon at possible, emphasized A. G. Angus of cost reduction section, a Resources Economics function.

GD/Electronics people have submitted 110 ESs and 10 CIPs since the first of the year with 40 ESs and 2 CIPs approved for an indicated savings of $8,757.

GD/E employees had received $666.80 for approved suggestions through the six-month period.

"GD/Convair's savings goal

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for the year through Employee Suggestions and Cost Improvement Proposals is still within reach, but it will take the combined efforts of all employees," Angus said.

"If you have an idea that you think will reduce costs, improve a method, eliminate a safety hazard or improve a tool, jig, fixture, get it down on paper and send it to the cost reduction section TODAY!"

ESs and CIPs can be deposited in any of the suggestion boxes located throughout the plant or they can be forwarded by in-plant mail to Cost Reduction, mail zone 23-30.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS

NEWS

Vol. 15, No. 17 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 15, 1962



RECORDERS—Vic Janusz (with pointer) indicates progress of cost-cutting project on chart in control center which is handling all recording and reporting on division cost reduction. From left are Harry Lund, A. G. Angus, John Wazny, R. D. Marks, Janusz, Arthur Medrano, James MacKill, George Baumgartner, B. W. Campbell.

Cost Reduction Effort Control Concentrated

All cost reduction efforts within the entire General Dynamics/Convair division are now channeled through a single control agency in a move to consolidate records, President J. H. Famme has announced.

Focal point of reporting progress on overall divisional cost reduction activity is the Resources Economics control center, maintained by GD/Convair's industrial engineering department.

Now it has been expanded to include recording and reporting functions on all division cost-cutting programs. Division Standard Practice is being modified to implement the new policy.

"Centralized reporting will help management accurately evaluate the division's vigorous progress toward cost reduction targets, establish its goals, and provide assistance in reaching those goals," said Famme.

"Many cost reduction projects require continuous policing after installation to continue to realize savings. The centralized organization will make it possible to keep a close eye on continuing progress and assure reliable savings reports which can be substantiated."

Liaison representatives will be named in all plant areas to work closely with the Resources Economics staff, under Vic Janusz, in charge of the reporting center. R. D. Marks, chief of manufacturing methods, is responsible for the activity which was originally set up under direction of R. M. Hatcher, director of industrial engineering, as a pilot reporting function.

'Step by Step' Teaching Method Adopted For Value Control

First test run of value control programmed instruction, under preparation at General Dynamics/Convair, saw ten "pioneers" exposed to the newly-developed method of instruction in a value control seminar ending Aug. 3.

("Programmed instruction," a teaching method which is becoming increasingly popular, involves breaking down the material into small, manageable bits and leading the student step by step, with each step requiring a response from the student, usually in question form.)

The two teams, made up of engineers, purchasers, quality and material control, and production men, entered the opening session unaware that they were to be "guinea pigs" in first evaluation of the programmed value control course, H. P. Williams, value control manager, reported.

"We were anxious to test results of the months of effort by programmers of service publications that has gone into condensing value control instruction into a systematically programmed form," explained Williams.

"We are certain that we can shorten length of time required for value control courses, thus reducing costs and increasing number of people we can train. And, as a colossal bonus, all comments so far indicate that everyone trying the programmed method assimilates the material faster and retains the information longer."

At the concluding session,

(Continued on Page 2)

Overhead Cost Cut by $2,500

Release of 19 pieces of IBM equipment is cutting GD/Convair's overhead expense nearly $2,500 a month, according to a Resources Economics report.

The card punches, printing card punches, and verifiers ranged in monthly rental fees from $40 to $120 a month. Additional saving of operators' time amounts to at least 692 manhours a month.

The study to improve utilization of key punch equipment located in various areas of the plant was made under encouragement of R. C. Hartwig, manager of systems and procedures and data processing, and C. L. O'Rourke, general supervisor of data processing.

Wherever possible, operations will be centralized within the data processing department, said O'Rourke.

Resources Economics, reporting center, will continue with follow-on surveys of the 35 machines still in use out of the data processing section for further consolidation, wherever and whenever practicable.

Club Meets Tonight In Island Setting

Tonight's the night for GD/Convair Management Club members to gather for a real summer outdoor meeting in the main patio of Catamaran Hotel.

Members will relax at the luau-type meeting arranged by engineering department. Social hour starts at 5:30 p.m.; dinner at 6:30. A short business session will be followed by an evening of special entertainment by a ten-piece Polynesian troupe.

Tickets at $2.50 still are available today (Aug. 15) at regular outlets.

Dynamics Reports First Half Profit

For the three months ended June 30, 1962, net income of General Dynamics Corporation amounted to $12,108,221, equivalent to $1.22 per common share.

This represents an improvement over the $1.07 per share earned in the first quarter of this year on approximately the same amount of sales, Roger Lewis, General Dynamics president, announced last week.

"For the six months ended June 30, 1962, earnings before income taxes came to $23,835,228. Due to the tax credit resulting from our prior year's loss, no federal income tax has been charged against the corporation's income," Lewis explained. "After tax provision on earnings of subsidiaries, consolidated net income for the six months amounted to $22,844,417, equivalent to $2.29 per common share. In the first half of the previous year, we had a net loss of $55,674,379, or $5.57 per share.

"Sales for the first half of the current year amounted to $1,057,-395,704, approximately equal to sales of $1,010,887,737 in the first six months of the preceding year. Volume in the second half will be lower as a result of the phasing-out of B-58 bomber production and of the Atlas base activation program. We are seeking new major programs to succeed these.

"Meanwhile, we have continued to obtain many substantial new contracts throughout our widely diversified operations. New orders for the first six months of 1962 amounted to $653,000,000, an increase of 26 per cent over the $519,000,000 in new business booked in the first half of the previous year."

GD/ELECTRIC BOAT RECRUITING 1,000

An intensive recruiting drive aimed at adding 1,000 new production employees to the work force before year's end has been announced by General Dynamics/Electric Boat, builder of nuclear-powered Polaris submarines for the Navy.

Immediate employment objective at Groton, Conn., is to add outside machinists, shipfitters, carpenters, sheet metal workers, pipefitters, electronics mechanics and electricians. Other trades will be sought later this year.

990 Coronado Flies for FAA From Edwards

Final version of Convair's 990 Coronado airliner, destined for Swissair, is now in demonstration flights heading toward Federal Aviation Agency certification.

The crew of plane N5602, modified 990 (No. 10-2) initiated FAA flights the last week of July at Edwards AFB, while No. 10-1 (N5601) went into the FAA program last week.

Initial flights of No. 10-2 concentrated on performance relative to the takeoff regime, said R. G. McGeary of engineering flight test. First flights of No. 10-1 deal with stability and control and will be conducted at San Diego.

(Continued on Page 2)



MILESTONE—GD/Convair and FAA crews of first 990 in FAA certification program snapped at Edwards AFB just before first performance flight July 20 are (standing) from left: J. W. Knebel, GD/Convair engineering test pilot; Carl Jacobson, FAA flight test pilot; Jim Ashley, FAA flight test engineer; Kay Stampley, FAA program flight test engineer; Frank Beemon, FAA inspector; Harold Brown, GD/Convair instrumentation flight test engineer. Kneeling, from left, are: Jack Fogleman, GD/Convair flight control engineer; Bill Chapman, GD/Convair flight test engineer; Collier Walker, FAA flight test engineer; Warner Lowe, GD/Convair flight test engineer.

Log Book Entries



STANDING BY—Present at ceremony honoring C. N. Crocker, supervisor of accounts payable, on completion of 35 years Convair service were from left, A. J. Chitiea, Convair controller; Crocker; J. D. Milling, manager of accounting; and J. H. Famme, GD/Convair president, who made presentation.

Retirements

CONVAIR

ANDERSON—Andrew, Dept. 215. Seniority date July 18, 1941, retirement effective July 27, 1962.

BELL—James W., Dept. 48-62. Seniority date Aug. 15, 1950, retirement effective July 27, 1962.

COSZENA—Peter, Dept. 149. Seniority date Oct. 9, 1947, retirement effective July 5, 1962.

HALLQUIST—Carl, Dept. 6-761. Seniority date Oct. 25, 1950, retirement effective July 27, 1962.

IMBIMBO — Leopold G., Dept. 133. Seniority date June 9, 1953, retirement effective Aug. 9, 1962.

JAMIESON — Donald G., Dept. 170. Seniority date Oct. 18, 1951, retirement effective May 14, 1962.

MACK — Leroy, Dept. 25-2. Seniority date Feb. 18, 1953, retirement effective July 27, 1962.

PAYNE — Catherine C., Dept. 14-3. Seniority date Feb. 23, 1951, retirement effective July 27, 1962.

PICKEN—William V., Dept. 102. Seniority date Nov. 14, 1937, retirement effective July 31, 1962.

SORTER—Harley E., Dept. 101. Seniority date March 19, 1956, retirement effective July 31, 1962.

SULLIVAN—Schuyler C., Dept. 180. Seniority date April 21, 1954, retirement effective Jan. 30, 1962.

GD/ELECTRONICS

BENDER—Homer M., Dept. 41. Seniority date May 1, 1956, retirement effective July 31, 1962.

HOLLOMAN AFB

LAWSON—Anderson V., Dept. 313-6. Seniority date Jan. 5, 1957, retirement effective July 27, 1962.

Rider-Driver

CONVAIR

RIDE WANTED — 7:30 a.m. to 4:30 p.m. from Lakeside area to Plant 1. Jo Guilford, home phone, HI-3-2533, or plant ext. 2473.

RIDE WANTED — Third shift, 12:30 a.m. to 7:30 a.m., from College Grove area to Plant 1. K. L. Pauley, home phone, JU-2-4280, or plant ext. 1738.

Promotions

CONVAIR

Promotions to or within supervision effective July 16.

Dept. 6-300, Engineering Product Design: To product support group engineer, J. D. Chapman.

Dept. 17-0, Marketing: To senior requirements engineer, W. C. Heath.

Dept. 23-1, Applied Manufacturing Research: To chief of applied manufacturing research, M. D. Weisinger.

Dept. 115, Machine Shop: To assistant foreman, H. B. Wilson.

Dept. 216, Electric Bench & Fabric: To assistant foreman, H. Hise.

GD/ELECTRONICS

Dept. 54-16, Engineering (Plant 2): To chief of antenna & microwave development, D. Proctor.

Personals

CONVAIR

Our deepest appreciation to Convair supervisors and fellow employees who gave of their time and affection during Herbert B. Marshall's long illness and recent death.

Cecile and Alan Marshall.

* * *

The Scherkenback family wishes to express sincere thanks to the many Convair friends, and the retirement section of employee services, for the expressions of sympathy and beautiful flowers sent at the death of John W. Scherkenback. It was comforting to know he was not forgotten after his retirement.

Mrs. John W. Scherkenback.

* * *

The warm friendship displayed by my many, many Convair friends on both the first and second shifts, the farewell gifts, and good wishes for my retirement were overwhelming. They will always be a source of fond memory for me and I thank you all from the bottom of my heart.

Jack Bearss.

Service Emblems

CONVAIR

Service emblems due during the period Aug. 1 through Aug. 15.

Twenty-five-year: Dept. 140, J. F. Bogan; Dept. 401-7, F. A. Boyle.

Twenty-year: Dept. 3-2, J. K. Field; Dept. 6, W. P. Easley, T. L. Heid; Dept. 48-95, L. J. Rice; Dept. 101, R. A. Dix; Dept. 140, W. H. Smith, E. M. Stadheim; Dept. 171, R. E. Cloud; Dept. 280, A. H. Crossley; Dept. 400-1, W. W. Harness; Dept. 401-0, Delores E. Van De Walle.

Fifteen-year: Dept. 3-1, L. O. Heath; Dept. 14, Floyd Newton, A. L. Van Quill; Dept. 15-0, Elizabeth S. Mountain; Dept. 24-4, A. G. Martinez; Dept. 129, Gabriel Calderon; Dept. 133, R. Z. Rivera; Dept. 140, R. M. Seiveno; Dept. 171, R. J. Ratliff; Dept. 192-9, M. R. Verduzco; Dept. 205, B. C. Hatcher; Dept. 218, C. J. Schmitz; Dept. 223, Jake Riveroll; Dept. 400-1, Frank Ventura.

Ten-year: Dept. 3-1, J. S. Spolarich; Dept. 6, G. E. Coffey, G. C. Kolsky, Alice T. Treat; Dept. 15-0, Johnnie M. Evans; Dept. 16-4, G. L. Hurley Jr.; Dept. 23, G. I. Baxter, B. J. Handwerker; Dept. 27-1, D. R. White; Dept. 34-1, T. J. Elliott; Dept. 215, R. G. Harter; Dept. 400-6, Jane E. Damron.

ELECTRONICS

Twenty-year: Dept. 5-5416, J. M. Green.

Fifteen-year: Dept. 3-5270, R. L. Frizzell.

Ten-year: Dept. 7-5153, W. A. Eide.

HOLLOMAN AFB

Twenty-year: Dept. 313-2, B. H. Brown.

Deaths

GD/ELECTRONICS

JANCOLA—Daniel P., Dept. 7. Died July 28. Survived by wife, Margaret; two sons, James R. and Daniel P. Jr.; parents, Mr. and Mrs. Andrew Jancola; brother, three sisters.

GD/E Functions To Consolidate

In a continuing move program which eventually will consolidate all General Dynamics/Electronics Plant 1 (San Diego) functions within one building, 35 people were relocated the first of the month.

Now in new quarters in the northeast corner of Bldg. 51's second floor are production engineers and estimating, planning, and methods personnel.

Supervision and staffs making the move from Bldg. 4 mezzanine were J. P. Morris, manager of production engineering; K. A. Seely, estimating and cost control supervisor; H. E. Robinson, tooling and planning supervisor; G. D. Patrick, methods processes and production plans supervisor.

Remaining in the Bldg. 4 location until adequate space can be arranged in Bldg. 51 are about 30 other GD/ people. They report to Kent Sinclair, manager of quality assurance; John Barrett, manager of inspection; T. E. Morris, manager of material operations; H. C. Murray, facilities control supervisor.

Martin Heads New Approach To Reliability

Appointment of W. J. Martin to the newly-created post of director of reliability for General Dynamics/Convair was announced this week by J. H. Famme, division president.

Martin will report directly to Famme.

"This new alignment," said Famme, "will enable the company to give the Department of Defense maximum integration of product reliability, quality control and value control surveillance over development and production of systems and all elements comprising delivered products."

In his new position, Martin will activate and chairman a Product Assurance Board that will be responsible for guaranteeing maximum reliability and highest quality of company products.

"The board's responsibility will extend to all phases of product planning, proposals and bidding, contract negotiations, engineering, manufacture, delivery and post-delivery of our products," Famme said.

Board members will be R. M. Hatcher, director of industrial engineering; W. R. Bruce, director of material and production services; W. D. Reed, director of manufacturing; G. A. Covington, manager of reliability; O. W. Harper, manager of customer service and flight test; H. P. Williams, manager of value control, D. C. Wilkens Jr., director of industrial relations (training aspects).

990 Coronado Flies for FAA

(Continued from Page 1)

The first 990 going into FAA demonstration will be used for performance checkouts — stall speeds, climb performance, actual takeoff demonstrations.

Second airliner in the program will concentrate on stability and control, stall characteristics, landing performance and rejected takeoffs. Landing and takeoff flights will be done at Edwards.

The GD/Convair crew on No. 10-2 is John Knebel, pilot; Warner Lowe, Bill Chapman, Harold Brown, flight test engineers; Jack Fogleman and D. W. Anderson, flight engineers.

FAA crew members are Carl Jacobson, pilot; Kay Stampley, program flight test engineer; Collier Walker and Jim Ashley, test engineers.

Assigned to No. 10-1 is a GD/Convair crew of Bill Harse, pilot; Al Hunt, Ed Guske, Bob Dunn, flight test engineers; Dick Bloom, flight engineer.

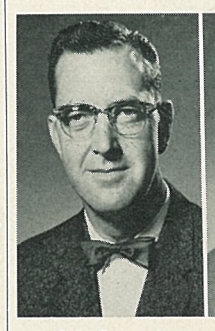
FAA crew is Dean Melton, pilot, and Les Starbuck, test engineer.

Both planes are supported by a ground crew of GD/Convair personnel from pod and pylon assembly, field operations, inspection, and engineering.

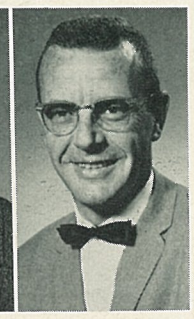
FAA demonstration flights on the Swissair version are expected to extend to the latter part of September with the American Airlines modified version entering the program soon afterward.

Representatives at NASA Bases Increased, With More to Follow

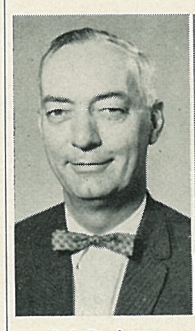
General Dynamics/Convair's representation at National Aeronautics and Space Administration bases is being augmented by two more engineering business representatives in addition to the first four assigned to promoting business contacts.



K. S. Coward
NASA, Houston



R. H. Boggs
NASA, Huntsville



J. J. Beckman
NASA, Houston



J. T. Radecki
NASA, Huntsville

Since the first of June, J. J. Beckman, K. S. Coward, R. H. Boggs, J. T. Radecki have been rotating as contact men for GD/Convair at NASA centers at Huntsville, Ala.; Houston, Texas; Langley Field, Va., in a new program to maintain on-the-spot representation.

"We have been more than pleased with their reception, which has been exceptional," said C. S. Brandt, chief of engineering business acquisition.

"In maintaining personal contact with engineering personnel working closely with projects of the future, we can keep in touch with potential business possibilities, and establish GD/Convair's identity and capabilities in the space area."

Most recent recruits are James Spurgeon and B. R. Hatcher, both of engineering. They were drawn into the program from the division's first business representative training course. Altogether 11 engineers were briefed as initial step in forming a specialized group of engineering "salesmen," with a second course scheduled next month.

"By October we expect to have a pool of at least two dozen trained men, all experts in their fields, who can present GD/Convair's engineering capabilities to potential customers of any kind, both military and commercial, throughout the world," Brandt continued.

Spurgeon returned the first week in August from his indoctrination trip with Beckman to the Manned Space Center at Houston and to Langley Field. Hatcher will be making initial contact on his first trip into the field with Boggs or Radecki the first part of September. They will cover the Huntsville Manned Space Center and the Army Ordnance and Missile Command.

'Step by Step' Teaching Method Adopted For Value Control

(Continued from Page 1)

Howard Kennedy, manager of technical publications, said, "We had a dual purpose in this trial run—we are gaining experience in actual application of our programmed material, and are applying a value control technique to value control itself."

J. J. Alkazin, director of administration, lauded the progressive move, "For years I have been all in favor of easier, shorter, quicker methods to pass on information, whether to a pilot or student."

Men attending the one-week trial seminar were sworn to secrecy. They were asked not to discuss the training with anyone who was familiar with value control from previous seminars. They were, as far as possible, used as an isolated test group in a semi-clinical atmosphere—first actual target population for the newly-developed material.

One team of the so-called "toolbox" seminar—so named because of the two projects, SATS MATS handling tool and storage box for air conditioning units—was given the complete series of five books to read before going into its work project. The other alternated reading of the material with work phases.

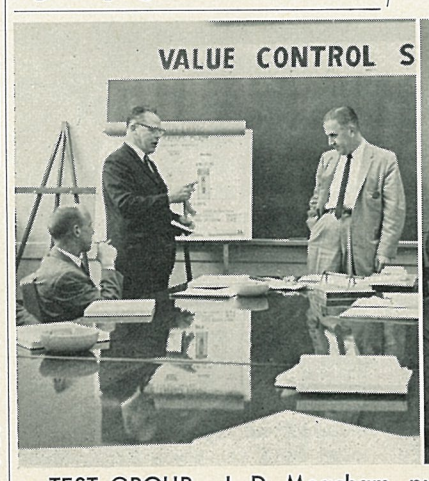
During analysis of seminar results, the two methods will be evaluated before the course is put into concrete form, explained J. D. Meacham, publications editor. Meacham directs a team of programmers, all of GD/Convair service publications, who have been compiling the value control programmed instruction during the last four months. They are Charles Keys, Dale Ball, and Chock Wagers.

All have been involved in previous programming of GD/Convair Techbooks. Four, dealing with highly technical military areas, now are in printed form and three others in various stages of preparation.

The value control programmed instruction is the first GD/Convair application of the streamlined training method to a business and management field. Upon revision, incorporating improvements developed from the initial experiment, the series will be used in other seminars, said Williams, who is enthusiastic about the new form of presentation.

Making up one test group were D. O. Wicker, purchasing; V. O. Kettler, engineering; L. C. Hare, factory; L. J. Betts, manufacturing control; Joe Breeden, engineering, working under Charles Hibert of value engineering, project leader, on the SATS MATS handling tool.

Second team was M. M. Doerr, factory; E. J. Story, engineering; P. S. Rader, quality control; D. V. Mardis, purchasing; and N. W. Schofield, engineering, with William Lavis, factory value control coordinator, project leader.





TEST GROUP—J. D. Meacham, publications editor, and Howard R. Kennedy, manager of technical publications (standing at right), explain techniques of programmed instruction to teams in 7th value control seminar who tested GD/Convair-prepared material. In photo at left are H. P. Williams, manager of value control, and J. J. Alkazin, director of administration, at concluding session.

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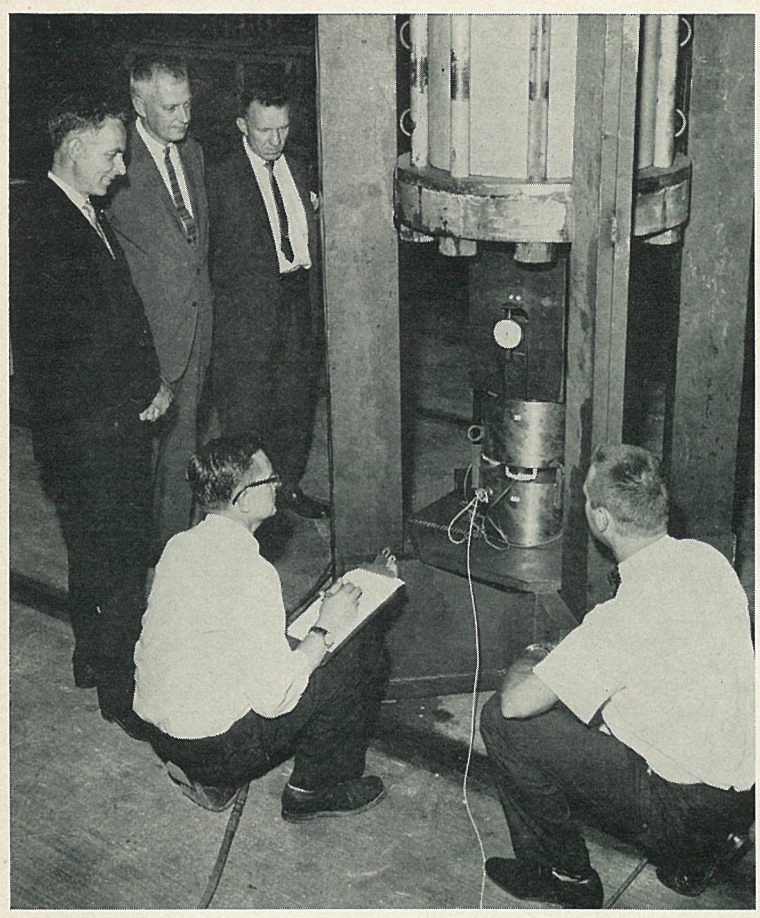
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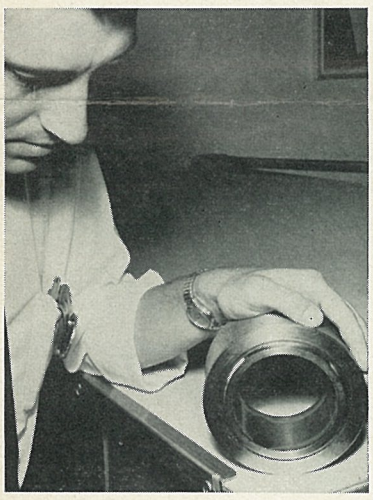
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HEFTY LOAD—C-141 engineers and manufacturer's representative form interested group as G. D. Lindeneau and John Gillette of GD/Convair structures lab take readings during over-million-pound loading of C-141 bearing. Standing, from left, are R. W. Miller, GD/Convair C-141 project engineer; D. H. Koozer, Lockheed C-141 engineering representative; L. H. Dornberg, chief engineer of Southwest Products Co., company producing bearings.

Million Pounds of Load Placed on C-141 Bearing

A pivot bearing, designed for the C-141 empennage, recently withstood over a million pounds of load, largest concentrated load ever applied at a single loading point by GD/Convair structures laboratory test engineers.



MIGHTY SPHERE—Ed Schiff of GD/Convair structures lab balances C-141 pivot bearing undergoing structures tests at San Diego facility.

The steel bearing, a self-aligning spherical type manufactured by Southwest Products Co. of Gardena, Calif., is now in a series of structural checkouts at the San Diego ramp facility.

Two of the bearings, 5½-in. in diameter, 3 inches thick, will be built into the vertical stabilizer as pivot points for the horizontal stabilizers of C-141 empennages under construction at GD/Convair.

First test at the structures lab saw a bearing take a load of 1,140,000 lbs. The hydraulic cylinder used for loading, designed and built in GD/Convair's structures lab, is one of the few in the country capable of applying over a million pounds of load, said Ed Schiff, structures lab assistant group engineer.

The bearing was positioned in a three-inch-thick support block, covered with an outer block, or clevis, with a 3½-inch shaft running through both clevis and bearing. Dynamometers, or load cells, were strain-gauged to measure load as the ram of the cylinder was pushed onto the clevis at loads from zero to the 1,140,000-lb. maximum.

Fatigue tests now are under way with the bearing to be put through a million cycles at various loads and rotations at low frequencies. Dynamics testing will see the bearing undergoing high frequency oscillations, simulating flutter, through 4,500,000 cycles.

Monitoring the test program are Dave Fletcher, John Gillette, and G. D. Lindeneau, structures lab test engineers; R. C. Westbrook and R. A. Close, C-141 stress and design engineers.



Dynamics Men Will Instruct

Eighteen General Dynamics men will be on the University of California Extension faculty for the fall semester starting the week of Sept. 17.

GD/Convair instructors will be W. H. Goggin, educational services supervisor; J. J. Harton, senior dynamics engineer.

From GD/Astro will be John K. Dienes, design specialist; Raymond A. Elliott, design specialist; James F. Haskins, staff scientist; Robert M. Jirgal, assistant supervisor of base activation PERT group; W. Duane Montgomery, staff scientist; Cyril H. Nute, senior research engineer; Alfred F. Schmitt, dynamics group engineer; Herbert J. Swanson, engineer in manufacturing proposals and contracts; Ernest Wade, senior project engineer; Bruno F. W. Witte, design specialist.

Representing GD/Electronics is William C. Slagle, electronic engineer.

Five General Atomic specialists are Gilbert B. Melese, Charles O. Peinado, Carlo Riparbelli, Marius Troost, Nils F. Wikner.

Spare 440 Wing Shipped to Europe For Use on Fire-Damaged Aircraft

A Convair-Liner 440 wing leaves San Diego this week, bound for a foreign port, only transport wing ever supplied a customer since the first Convair 240 went to an operator some 14 years ago.

The traveling wing, 101½ feet long, is moving via a motor ship, the MS Korotan, to replace one damaged by fire on a European airline's Convair 440. John Morey of General Dynamics/Convair major mate is accompanying the huge part to supervise installation operations.

"Although this is the largest part we've ever been called upon to furnish a customer, it points up the fact that we have every part on hand at all times to support the 1,000 Convair transport planes in use all over the world," said John Doig, manager of service parts.

"And, as long as Convair planes are in operation any place, our service parts operation will be ready to send parts anytime to any place in the fastest possible time."

GD/Convair service parts stocks 15,000 different spares for the Convair-Liner series — 240s, 340s, 440s — and 22,000 jet transport spares for the more than 130 airline operators flying Convair planes, explained Doig.

And, the service parts department provides round-the-clock service, 24 hours a day, seven days a week!

GD/Convair's spares system is known as one of the most advanced in the industry with its use of high-speed IBM data processing equipment developed in cooperation with the Air Transport Association.

Almost 2,000 purchase orders for parts were processed for commercial customers during the first six months of this year, and at least that many more are expected to pass through the hands of service parts personnel during the rest of the current period, say GD/Convair service parts supervisors.

The cocooned 440 wing was sprayed with a liquid envelope under supervision of J. J. Janssen, packaging specialist at Rose Canyon. The three layers of grey preservative compound will be peeled off when the wing reaches its final destination.

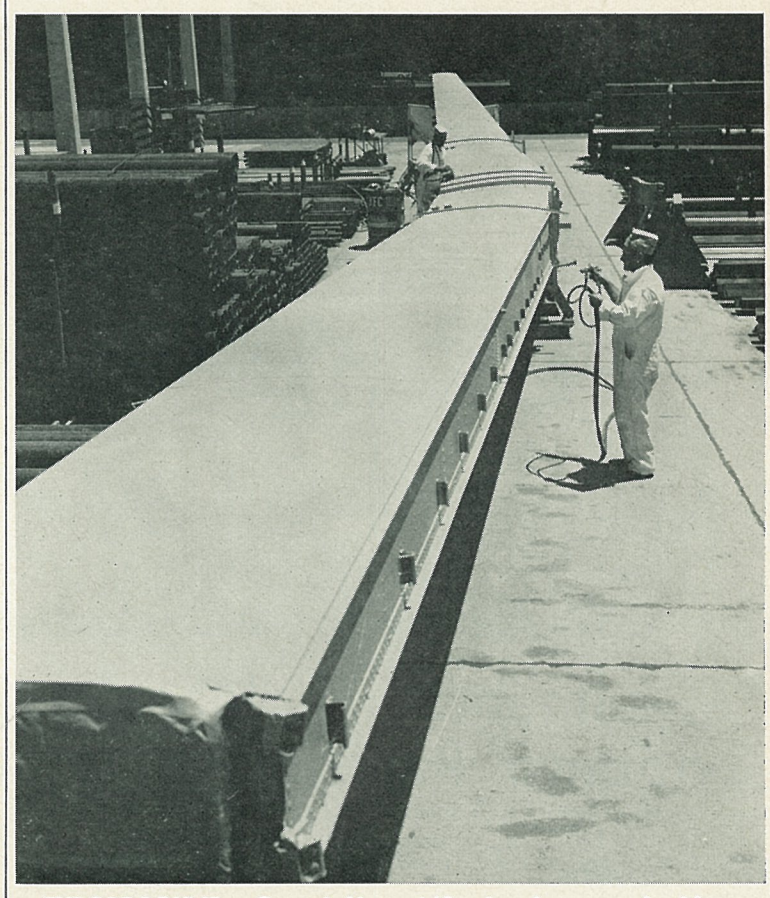
Loaded on a GD/Convair semi-trailer, it was moved gingerly down a route from Rose Canyon, along Morena Blvd., Kettner Blvd., to Harbor Drive and to the loading dock at the Tenth Ave. terminal. Transportation operations had charge of the long, careful haul by truck.

Special highway permits had to be obtained to allow its parade across town, said Jack Sheldon, traffic administration supervisor.

Once aboard the cargo ship, carrying a load of grain from Seattle, which had stopped at San Diego Harbor for the sole purpose of picking up the huge part, the wing will be anchored securely to the deck for its ocean voyage.

And, as a sidelight to obstacles surmounted, a bore and ream fixture was sent by Canadair Limited to the San Diego plant for drilling and reaming attachment fittings so the wing will line up exactly when it is finally attached to the 440 fuselage.

Present emergency brings memories of a couple of other incidents, only ones comparable in the long history of Convair transports — "Operation Cornfield," in 1955 when a Convair 340 was demated in an Iowan field, brought back to GD/Convair, repaired, and flown back to the operator intact. A couple of years later a wing was salvaged from a plane downed in Shreveport, La., returned to the San Diego plant, where it was mated to a new fuselage to put the operator back in business.



EUROPE-BOUND—Convair-Liner 440 wing is sprayed with preservative compound by Ed Rinks and Lloyd Schmitz of GD/Convair field operations before it leaves San Diego plant for foreign port to replace damaged wing of European Convair 440. It is largest part ever required and is dramatic illustration of GD/Convair's capability in spares support to airlines.

Continuous Contact Maintained With Jet Aircraft Customers

A seven-foot stack of messages, which if spread out would stretch —from here to there—represents the thousands of queries from, and replies to, Convair 880, 880-M, and 990 operators over the last two years.

L. J. Bordelon, chief of service engineering at GD/Convair, piled up the entire correspondence file to take a good look at the 18,000 pieces of paper which have passed through the hands of transport service department since Convair jet transports went to the first customer.

"These are only the priority letters and telegrams flowing to and from 880 and 990 customers concerning technical matters handled by our teletype connection with the General Dynamics switching center. They do not include the mountain of field reports from service engineers or such miscellaneous material as blueprints from the customers which need no reply," he pointed out.



WHEW!—Larry Bordelon, GD/Convair chief of service engineering, seems slightly aghast at tremendous pile of messages handled through his department in assistance of Convair aircraft customers.

As the 880s and 990s have gone into service, Bordelon continued, service engineers in the field, averaging around 25, and equal number of transport service people at the San Diego plant maintain constant and fast communication in assistance of customer airlines on all maintenance, operational, and overhaul matters.

Direct teletype connections have joined GD/Convair's transport service group with Delta, TWA, Northeast, American Airlines at New York, Swissair at Zurich, Switzerland, Japan Air Lines at Tokyo. Other operations are given equivalent communication service by regular commercial systems.

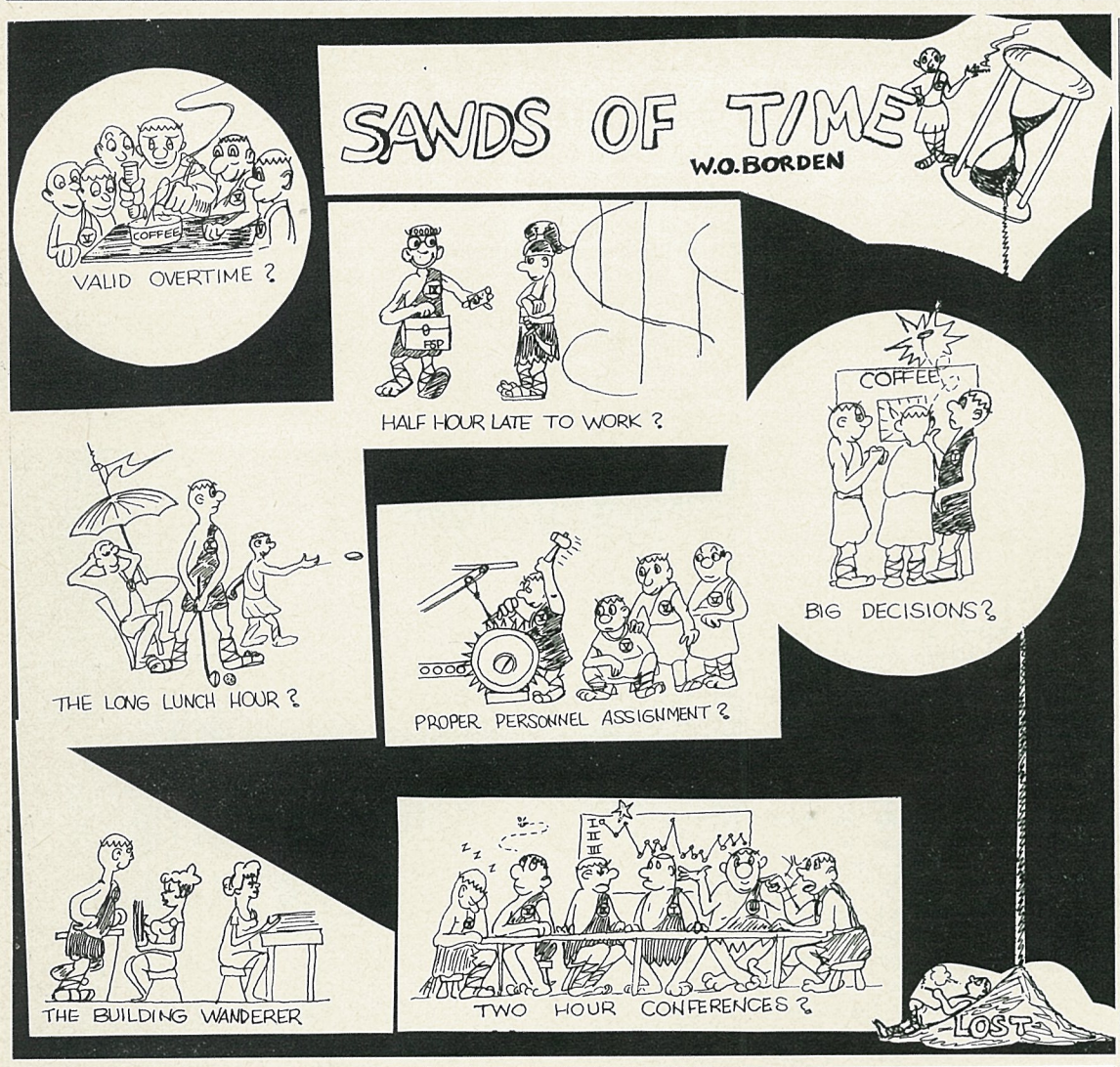
And the communication service is even more automated with master ditto rolls on the teletype so that copies may be run off immediately with no delay in clerical work. Field reports from service engineers also are received on master dittos.

As the transport service people make the move this month from Bldg. 19 to second floor of Bldg. 5 within Plant 1, business will go on as usual.

"We will continue to keep abreast of any knowledge that can help present and future jet transport customers," stressed Bordelon. "And, we certainly don't expect any leveling off of the current communication load in the foreseeable future.

"Any request for information that is too urgent for mail response, will continue to be handled immediately by wire or phone!"

In addition to support of jet transport customers, the transport service section also devotes as much as two men's time consistently to assistance of Convair-Liner operators all over the world, he added.



Experimental Airplane Builders 'Scrounge' Parts From Anywhere

By "scrounging" parts from old military aircraft, lawn mowers, used cars — and heaven knows what else—a handful of General Dynamics/Fort Worth people are building their own private planes dirt cheap: from $600 to $800.

They're members of DALWORTH (Dallas-Fort Worth) Chapter of Experimental Aircraft Association, a group of hardy aerial enthusiasts dedicated to "flying for the fun of it."

Membership ranges from landlocked tyros to veteran command pilots of World War II vintage.

And projects in work range from a bi-plane that's no longer built commercially, to a snazzy French two-seater.

The 650-pound bi-plane, with 17-foot wing span and 15-foot, 1-inch fuselage, is being built by Ben Whitten, engineering clerical supervisor. He's being helped by a former GD/FW employee, Tommy Johnston.

When Whitten takes his two-winged craft aloft this fall for FAA certification flights, it'll admittedly be a nostalgic occasion.

"When I was a kid of 10, we'd work all day to hook a flight with a visiting barnstormer," said Whitten.

His aerial hitch-hiking earned him a ride with, among others, Lou Foote, Texas aviation pioneer. Later, he was to fly the first Taylor Cub (forerunner of the Piper Cub) in Texas.

Since then, Whitten has flown 31 combat missions in B-17s in Europe, and C-54s for MATS during the Korean War.

Ken Morris, in AFPRO engineering support, says he's building his economy-sized "spare parts" low-wing, single-seater for about $600.

"I'm using parts from lawn mowers, unlisted military airplanes and surplus parts," Morris said.

Powered by a Lycoming 65 hp engine, the plane will be of conventional lightweight construction and cruise at about 100 mph.

Morris isn't new at aircraft construction. In 1940, while in high school, he built and flew a primary glider. During World War II he flew B-24s and B-29s. He also saw service in Korea.

A relative newcomer to the flying game, Jim Wallace, senior engineering administrative assistant is building an AY-20 Minacab.

The French design two-seater, with 85 hp engine, will cruise at 135 mph.

"I have the horizontal tail group about ready to go together," said Wallace, whose garage is his workshop.

J. Floyd Blair, engineering publications editor, returned from EAA's National Fly-In at Rockford, Ill. Aug. 1-5—ready to resume work on his cantilevered low-wing, single-place, fully acrobatic plane. Powered by an 85 hp engine, its cruising speed is 140 mph.

Blair is president of EAA's local chapter.

"Actually, it's an association project," said Blair. "Two people from Fort Worth, three in Arlington and two in Dallas are assisting in construction."

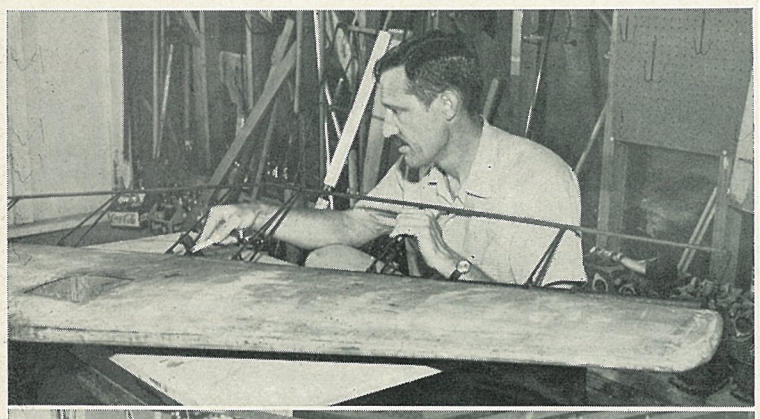
A former veteran flying instructor for the Navy, Blair is an enthusiastic backer of the work being done by EAA.

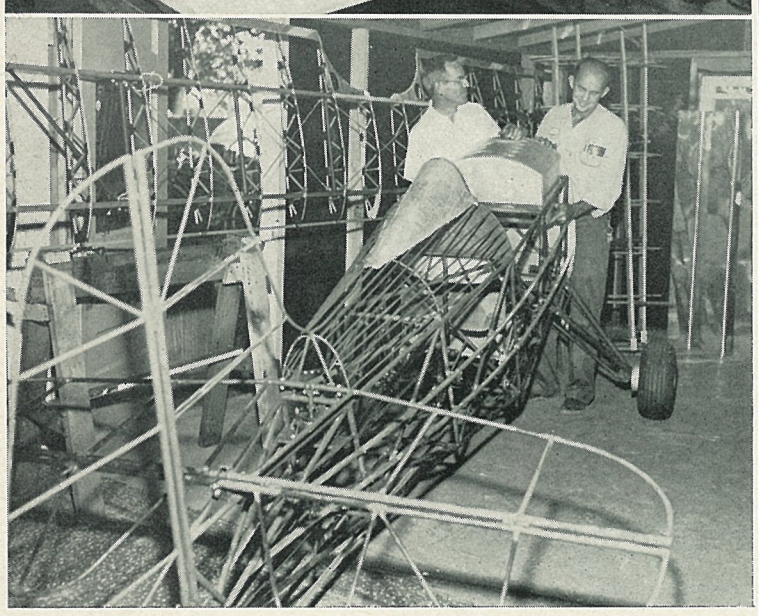
"We build airplanes for the pride of craftmanship involved," he said, "and we fly them for enjoyment.

"Although many of our members are veteran flyers and plane-builders, others learn from the ground up," he added.

EAA has actually had members learn to fly while building their own planes.

Other GD/FW employees currently active in EAA include: B. J. McWhorter, group engineer digital computer; Vic Patoski, senior design engineer; Bob Carver, flight test engineer; S. J. Cichon, development liaison man.





TAKING SHAPE—In top photo, J. Floyd Blair, Dept. 6 at GD/FW, works on component for single place plane he is building, while below Ben Whitten, also Dept. 6, gets assist from Tommy Johnston during bi-plane construction.

CAPT. CRENSHAW POMONA VISITOR

Capt. R. S. Crenshaw, director of Anti-Air Warfare Programs division for the Chief of Naval Operations, visited General Dynamics/Pomona Aug. 8. Capt. Crenshaw played an important role for the U. S. Navy during development of the Terrier program.

Off to Africa

Daingerfield Engineer Accepts Two-Year Congo Assignment

W. A. Reed, senior thermodynamics engineer, General Dynamics/Pomona, Daingerfield Division, his wife, Ruth, and their four young daughters left Aug. 9 by jet airliner for the Republic of Congo.

Reed, a General Dynamics employee for 14 years, resigned to accept a two-year appointment by the Christian Church to work in the missionary field as engineer in charge of construction and maintenance. He will also be in charge of an amphibious Cessna 180 which he will pilot, carrying missionaries and supplies to various stations. Due to political unrest in Katanga his duties will be restricted to the Equatorial Province of the Congo. Since he has recently acquired his amateur radio license he expects to set up a station which will be the first direct radio connection between missionary headquarters in Indianapolis and the Congo. Reed's is the first engineering appointment by the Christian Church to serve in that area.

Their new home will be at Coquilhatville, usually called "Coq." "It will be easy to find," Reed said with a wry grin, "It's located at the intersection of the Congo river and the equator."

The Reeds' attention to that part of the world was brought forth through discussions with their pastor, the Rev. Charles E. Mull Jr. of the Mt. Pleasant First Christian Church, who is himself awaiting an appointment to the Congo. The more they heard of the need for workers, particularly with engineering-pilot qualifications, the more convinced the Reeds became that they should serve—so it was a family decision which will probably be the most important of their collective careers.

Mrs. Reed is a registered nurse and while she will not have immediate official duties no doubt she will be a great source of help to the other 16 missionary personnel and their families at "Coq."

Mrs. Reed has already encountered one problem that would dumbfound most housewives. She had to prepare a grocery list for one year, purchase the groceries, get them packed and shipped. She will take on the added duty of baking all the family bread since it is unavailable in the markets. Part of their furniture has been placed in storage and the rest has been shipped; by a strange coincidence one barrel of "household goods" contains model airplanes and parts.

The three younger girls, Jeanette, who celebrated her 7th birthday over the middle of the Atlantic, Julianne, 9, and Jeannine, 10, will receive their schooling by the Calvert System of Home Study which is instructed as a cooperative program by the missionary wives. Joellen, 12, will attend the American Junior High School at Boende, about 310 kilometers from "Coq." The entire family has been studying French with the help of LP records.

During his employment at Daingerfield, Reed was a member of the bowling team, active in the Rifle and Pistol Club (his one disappointment about the future is that he cannot bring firearms into the Congo—he had looked forward to hunting crocodile), DRA Model Airplane Commissioner, and a charter member of the Lone Star Squadron of Civil Air Patrol.

Before going to Daingerfield in 1948 Reed worked at the San Diego Division from October, 1941, to December, 1942.



CONGO MISSIONARY—W. A. Reed and family pose prior to leaving Daingerfield Aug. 9 for new home in Congo. Daughters are Joellen, 12 (in back row with parents), Jeanette, 7, Julianne, 9, and Jeannine, 10.

GD/FW Men to Aid United Fund Campaign as 'Loaned Executives'

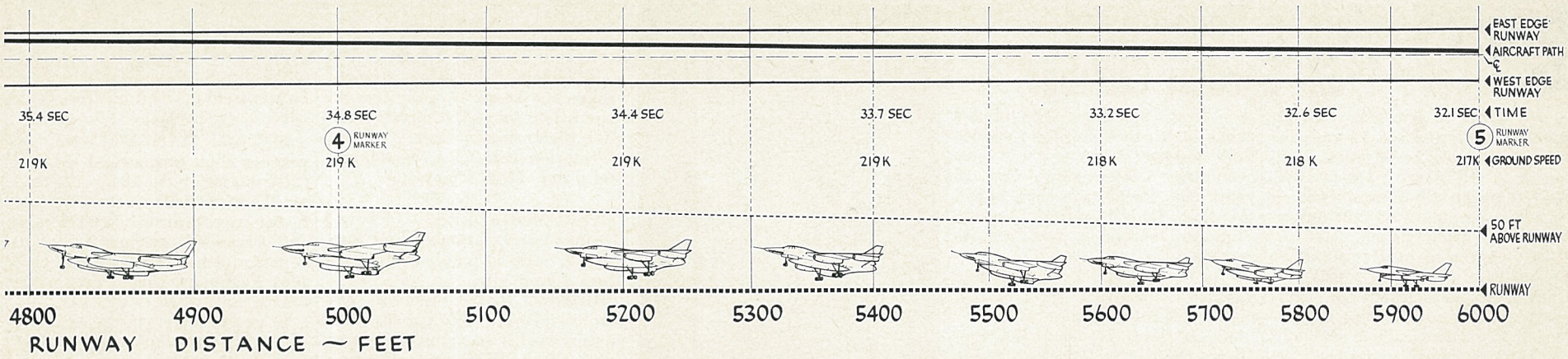
Ten GD/Fort Worth men have been named "loaned executives" for the 1962 United Fund campaign by M. L. Hicks, vice president-legal and procurement.

Hicks is a member of United Fund's board of trustees.

Primarily, loaned executives assist in explaining the mechanics and tools by which larger industries in the community can meet their United Fund objectives.

All loaned executives are slated to attend a 2½-day indoctrination program in Lone Star Gas Co. auditorium on either Aug. 15-17, or Aug. 22-24.

Employees serving are: C. C. Allen, assistant factory manager; E. C. Cauthen, process control supervisor; Fred Holder, assistant chief manufacturing control; Jack Morrow, spares general supervisor; J. I. Pratt, purchasing agent; M. J. Scott, suggestions, material handling and conservation supervisor; N. H. Simpson, manager of reliability; W. D. Strong, administrative assistant general accounting; R. A. Wagner, chief of educational services; and B. B. Shuffler, assistant project engineer.



RECONSTRUCTION—Movie film of takeoff or landing of B-58 is used by illustrators to review plane's attitude at various points. Night takeoffs can also be reconstructed, using lights on aircraft as points of reference. Grid, such as above, is helpful in giving accurate picture of action.

GD/Astro Engineer Off For Montreal

Benoit Lachance, General Dynamics/Astronautics engineer, will travel to Montreal, Canada, late this month for an appearance on CFPN-TV (Channel 10).

Lachance, former Canadair Ltd. employee, will provide French-language narration for a special telecast of the movie "Friendship 7," a film produced by GD/Astro for the U.S. National Aeronautics and Space Administration (NASA).

It describes Lt. Col. John Glenn's orbital flight, from launching via Atlas booster to recovery of the space vehicle. The program is scheduled for Montreal showing about Sept. 1.

'Animated' Movie Films Check B-58 Takeoffs

Illustrators at General Dynamics/Fort Worth are using an "animated cartoon" technique to help unlock the mystery that sometimes surrounds plane problems on takeoff and landing.

The technique involves making sequence drawings of the takeoff or landing from film made by special cameras at either end of the runway at Fort Worth, used by planes from Carswell AFB as well as from GD/FW.

Daylight films, of course, show all action clearly. But at night, only the plane's exterior lights and exhaust from engines appear as tiny specks of light.

On a B-58, for example, dots would represent some of the 11 different lights which the plane carries. One or more of the Hustler's powerful J-79 engines might also show, depending on the film angle.

With help from flight test, service engineering illustrators can identify these individual lights and reconstruct a takeoff.

"By using vellums (copy paper) in registration with the photo, we plot light locations," explained J. H. Herbert, engineering publications supervisor. "Then lines can be drawn between the lights, interconnecting them in their logical sequence."

From these outlines, or "stick airplanes," illustrators can create the plane's attitude at virtually any point during a takeoff or landing.

"We use a small model of the plane, plus Polaroid photos of the model in some of its attitudes, to prove our plots," Herbert said.

Confirmation can also be made by cross-checking film from cameras at either end of the runway. All cameras grind away until the plane is airborne 100 feet.

Movies are taken by both 35 mm and 16 mm cameras housed in 85-foot theodolite towers 1,500 feet to the side and near either end of the runway.

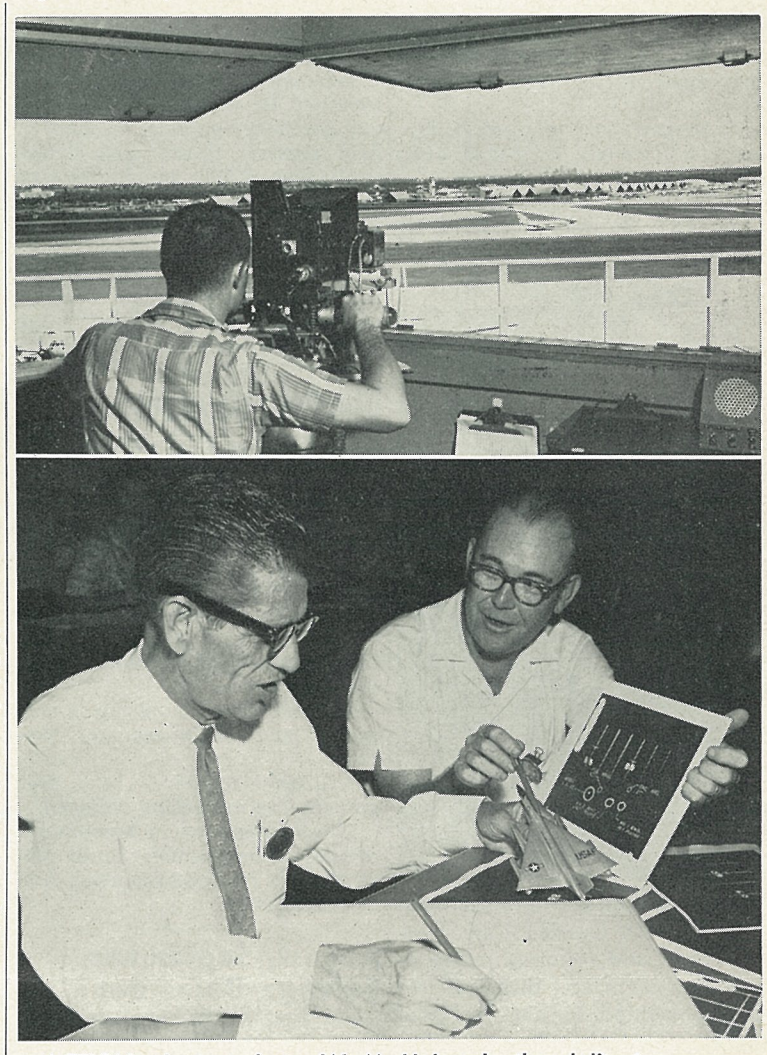
The 35 mm camera clicks away at 10 frames a second through a grid projected on the film by a half-silvered mirror. The film is marked at 50-foot increments vertically, and 100-foot distances on the runway itself. Film from this camera is used mainly to confirm plane position.

"But the 16 mm camera, which shoots from 24 to 32 frames a second, can be invaluable in slowing down action," said F. E. Carlile, photo lab assistant supervisor assigned to flight test.

"Additionally, the 16 mm movies are in color. This makes it possible to positively identify certain lights on a plane like the B-58, since red, green, and blue lights are used at different points."

Carlile says the job of analyzing film is facilitated by use of a special analyst projector, which permits the operator to speed up or slow down action, or to shuffle it back and forth as necessary.

Round-the-clock operations by Carlile's cameramen now insure complete photographic coverage for Hustler takeoffs and landings.



ACTION—In top photo, W. M. Holcomb, theodolite tower operator, films Hustler takeoff, while below J. H. Herbert, engineering publications supervisor at GD/FW, and C. A. Anderson, editor, reconstruct takeoff pattern from film.

Atomic Reactor New Weapon In War Upon Insect Pests

General Atomic Division of General Dynamics is joining with the University of California at Riverside, Calif., in the use of an atomic reactor as a weapon against insect pests which take a toll of stored grain and other commodities.

The University's research project is to establish new standards for fumigating grains, provide maximum protection and extend storage life while holding residues within tolerance levels set by the U. S. Food and Drug Administration.

To this end, an ultra-sensitive technique of nuclear science—neutron activation analysis — is used to identify and measure pesticide residues in quantities as small as one part per million. Fumigated samples of wheat and flour are being irradiated, under neutron bombardment, in a TRIGA research reactor at General Atomic laboratories.

By contrast to chemical methods previously used in such research, neutron activation analysis is simpler, faster, more precise, nondestructive and relatively inexpensive.

Working with the University scientists is Dr. Vincent P. Guinn, technical director of General Atomic's neutron activation analysis program and one of the originators of the use of this technique in determining bromine-containing pesticide residues. In addition to the studies for the University of California, General Atomic is analyzing other foodstuffs, including milk products, citrus fruits, vegetable oils and spices for chlorine and bromine residues and for "traces" of sodium, potassium, aluminum, vanadium, manganese, copper, and tin.

According to Dr. David L. Lindgren, University of California entomologist, much of the food produced in the United States is fumigated with brominated or chlorinated organic compounds, including methyl bromide which is used as an insecticide for grains, flour, bran, and other grain derivatives.

Extremely toxic to most insects which feed on grains, methyl bromide, when absorbed by grain, undergoes chemical decomposition and becomes an inorganic bromide. Some of these bromine residues find their way into the processed foodstuffs. Government tolerance limits for residues of methyl bromide in raw agricultural commodities vary from 5 to 240 parts per million, depending on the crop.

The University of California-General Atomic studies are directed at determining factors that influence the fumigating process and the amount of residues, such as temperature conditions, aeration and moisture content.



FRIENDLY FELLOWS—Mother bird and two little ones reside in nest built in crane at Complex 5, Walker AFB. Crane was moved and thoughtful employees transferred nest back to Complex 5. Mother had no objections to humans handling babies, as trio of Astro folk demonstrate. Left to right: Dannie Williams, Carol Chapman, Doug Maness.

Lawson Installed As Area President

L. G. Lawson of GD/Convair was installed as president of the San Diego Area Council of National Management Association Aug. 4 in ceremonies at Catamaran Hotel.

Other officers for the 1962-1963 term are F. Schoelkopf of Ryan Electronics, vice president; W. E. Magnuson of GD/Astronautics, treasurer; A. E. Froehlich, Ryan Aerospace, secretary.

Lawson said that the council will continue the policy of mutual help and exchange of ideas for the benefit of all NMA members in the San Diego Area.

Save Material—Don't Throw Your Job Away!

Sky Telephone Service Tried Out in 990,880

Passengers aboard Convair airliners flying over American Airlines and Trans World Airlines routes are now making telephone calls in flight for the first time in aircraft history.

American Airlines inaugurated a new skyphone service on a 990 jetliner July 25 with a second 990 getting a similar public phone later the same week. TWA installed a skyphone in an 880 July 28.

Both lines will be evaluating the equipment on the Convair jet transports over the next several months. Tests, if successful, could lead to installation of telephones on all of their jet planes.

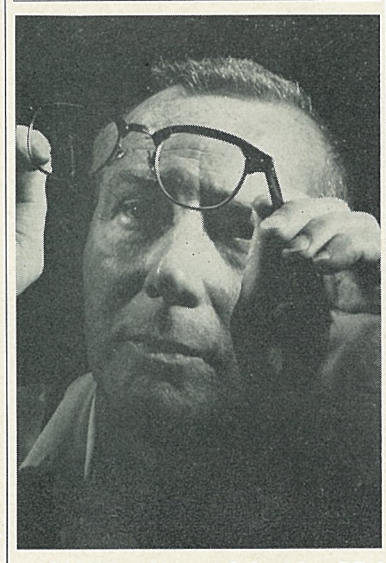
American is confining its skyphone service for the present to 990 flights within the New York-Chicago-St. Louis triangle because of the location of American Telephone and Telegraph ground stations that pick up the radio signal from aloft. Calls are relayed from the ground station along regular long distance lines.

TWA's air-to-ground phone service is being used on an experimental basis on 880 flights between Chicago, St. Louis, and the East Coast.

Additional stations across the western half of the country will be established by the Bell System in another year, with the air-ground network of ground stations increased to 72 by 1965, according to the TWA company publication.

There are no present plans providing for calls to the planes in-flight from ground telephones.

Passengers are able to charge calls to home or office telephone numbers, use a telephone company credit card or call collect.



SAVED—Harry Schmidt, GD/Pomona Dept. 42 tool maker, examines safety glasses that saved him from injury when tip of saw blade struck lens.

Outstanding Safety Record Achieved

Convair-Liners have piled up almost 17½ million flight hours during their 14 years of service with commercial carriers and the military services.

Since 1948, the 490 aircraft in commercial service have accumulated around 10,334,000 hours in the air. The military, with 509 aircraft since 1950, has totaled 7,079,565 flight hours with Convair-Liner type planes.

And the overall safety record for the entire 14 years is only .6 major accidents per 100,000 flying hours!

Everett Henderson Recognized As SoCal's 1962 'Garden Clubber'

Top honor in Southern California gardening circles was bestowed recently on Everett Henderson, GD/Astro Dept. 602, ARA Garden Club commissioner and past president of its counterpart CRA organization.

In ceremonies at Hoover High School, the San Diego Chapter, California Association of Nurserymen, named Henderson "outstanding garden clubber of 1962."

The nurserymen made their selection from among eight nominated by 40 area garden clubs with total membership of over 2,500. The award was based on contributions to the garden club movement during the last three years.

A women's award went to former GD/Convair employee Jean (Mrs. Joseph J.) Kenneally.

Henderson's nomination came from ARA Garden Club which he founded in late 1961. Three months' extensive promotional work before the club got under way netted over 100 persons at the first meeting. The club's ranks have since swelled to twice that number.

Joining GD/Convair over 15 years ago, Henderson soon joined the then fledgling CRA Garden Club and served a term as its president.

"In those days I was raising dahlias," Henderson said. "I had about 800 hills of plants."

He is past president of San Diego Dahlia Society and in his "dahlia days," frequently held open house at his Pacific Beach home to display his plants to fellow employees.

A temporary disability forced Henderson to abandon dahlia culture and he switched to his present specialty: orchids. In May he held another floral open house, exhibiting 2,500 orchid blooms (up to 100 on a plant) to visiting GD/Convair and Astro employees.

He is currently president of the San Diego Orchid Society, and remains an accredited judge for the American Dahlia Society.



TOP CLUBMAN—Everett Henderson, ARA Garden Club commissioner and formerly active in GD/Convair club, displays trophy presented to him by local California Association of Nurserymen chapter as "outstanding garden clubber of 1962."

Bowling Director For Wives Chosen

Ann Ragusa, wife of Joe Ragusa of Dept. 170, has been named bowling director for GD/Astro Wives Auxiliary.

This week Ann announced plans for a winter league to roll each Monday (9:30) morning at Clairemont Bowl beginning Sept. 17.

No established handicap is necessary and beginners are welcome.

Available to wives is a free nursery for pre-school children.

Those interested in becoming a regular team member or a substitute are invited to contact Ann at BR 3-6264.

August, September Salvage Dates Set

Salvage yards are open to General Dynamics employees on the following alternating Saturday schedule:

GD/Convair—Aug. 18, Sept. 1
GD/Astro—Aug. 25, Sept. 8.

Sales hours are 8 a.m. until noon at both GD/Convair Plant 1 and GD/Astro Kearny Mesa site.

Programmed Instruction Chapter Forms With Dynamics Men in Important Roles

General Dynamics people interested in any phase of programmed instruction are invited to attend the Aug. 30 meeting of the newly-formed San Diego chapter of the National Society for Programmed Instruction.

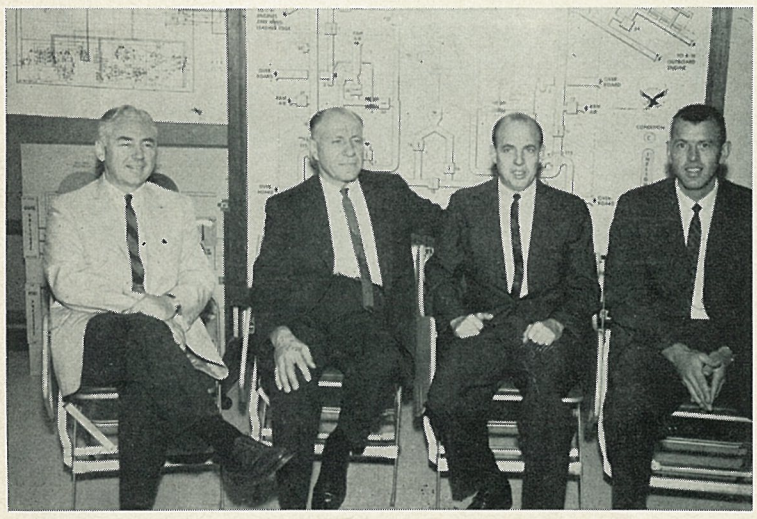
Two guest speakers will be on the program during the evening's session in Convair executive dining room, Pacific Hwy., said J. D. Meacham (Dept. 16-1), president. Meeting starts at 7:30 p.m.

The San Diego group, composed of training and publications personnel in GD/Convair, Astro, and Electronics divisions, San Diego educators, military and commercial agencies, was formed in June. It is the only chartered chapter in the United States at the present time.

Forty-one members, including ten new ones, saw a demonstration of various types of teaching machines and aids at the July 26 meeting; as well as a comprehensive display of sample programs, books and brochures on programmed instruction.

John Yewusiak, consultant for the Center for Programmed Instruction, spoke on activities of newly-organized programmed learning institutes, and a film, "Learning and Behavior," dealt with methods of teaching pigeons.

For information on the Aug. 30 meeting call C. M. Keys of GD/Convair, secretary of the chapter, at Plant 1, exts. 2249 or 2782.



ORGANIZERS—First slate of officers, all of GD/Convair, directing SD chapter of National Society for Programmed Instruction during formation stages are, from left, P. H. Selby, vice president; M. M. Monroe, treasurer; C. M. Keys, secretary; J. D. Meacham, president.



KEYMAN—Joe Balvocius, left, of Astro's Walker AFB office, recently received Keyman Award, top Junior Chamber of Commerce honor, for community work at Roswell, N.M. Presenting is Bob Hazelwood, state vice president. Honor recognized outstanding effort by Balvocius in Jaycee activities since 1960.

Singles Club Slates Dance

ARA Singles Club has scheduled two events for all single adult GD/Astro employees.

First is a dance to be held in ARA Clubhouse from 9 p.m. to midnight Aug. 17. Admission is 50 cents upon presentation of Astro identification card.

Aug. 19 the group will hold a "do-it-yourself" picnic at the main picnic shelter, ARA Area. This event is free with participants supplying their own food.

ARA Snack Bar will be open for purchase of sandwiches and other refreshments, and softball, volleyball and dancing are on the entertainment agenda. Hours are 5 to 10:30 p.m.

ARA Nine at Walker Enters Championship

WALKER AFB — An ARA-sponsored GD/Astro softball team here has copped two victories in three games while competing in the Roswell City League.

Late last month the Astro team traveled to Carlsbad to take part in district play leading to New Mexico State championships. Early this month they were to engage in Roswell's annual city championship tournament.

Joe Degregorio is manager with Alexander Manzano as coach. Team members include Darold Wainwright, Phillip Gannon, Allan Leach, Dale Grose, James Roller, John Stanley, Tom Neason, Carl McCargo, Stan Howey, Fred Baker, Doug Benson, Paul Casey, Carl Fulpon, Jim Hammon and John Stansbury.

Hair Styles Topic For Wives Meeting

LINCOLN AFB—Legionnaire Club, Lincoln, was the gathering point for approximately 100 Lincoln Atlas Wives Club members for their July meeting.

Discussions centered around hair styles with one of Lincoln's foremost stylists conducting demonstrations and answering questions. His models included club members Mmes. Eugene Gilmore, Bill Boone, James Cusack and Vance Walsh.

Hostesses were Mmes. Gary Jones, Kenneth Kleager, Lee Silvernale, and Gordon Tume.

ARA Teen-Age Club Will Dance Aug. 18

ARA Teen-Age Club will hold a dance from 7:30 to 11 p.m. Aug. 18 in ARA Clubhouse, with the "Leisures" band providing music.

Each member may bring one guest, according to Commissioner John Hess. Admission is 25 cents per person.

The group conducts dances on first and third Saturday evenings of each month. Club membership applications are available to parents at all employee services outlets.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

* * *

AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m.-1 p.m., Clairemont Mesa flying site.

BRIDGE CLUB—General Dynamics players eligible to take part in weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts. Special summer rates in effect.

CAMERA CLUB—Next meeting Aug. 27, 7:30 p.m., Photo Arts Bldg., Balboa Park. Color movie, "Snails," to be shown.

COIN CLUB—Meeting tomorrow (Aug. 16), 7:30 p.m., Convair cafeteria, Pacific Hwy.

DELTA DIVERS — Regular third Tuesday of month meeting (Aug. 21), 7:30 p.m., Convair executive dining room.

FENCING—Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th and C Sts.

GOLF — Plant Championship (Sept. 8, 15, 22) entries Aug. 15-24. Call Molly, ext. 1705, Plant 1.

GUN CLUB—Regular Wednesday and Friday evening practice shoots, 6:30, Gillespie Field range. Skeet shoot Aug. 26, 10 a.m.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Friday, 7:30 p.m., open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot Aug. 26, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—Meeting tomorrow (Aug. 16), 8 p.m., Harbor Drive headquarters.

ROAD RUNNERS — Meeting tomorrow (Aug. 16) at Gillespie Field Clubhouse. Judicial board session, 7 p.m.; program starts at 7:30 p.m.

ROLLER SKATING — Free skate night Aug. 20, Skateland, Front and G Sts. Tickets at employee services.

SOFTBALL — "Slow pitch" league games tonight (Aug. 15), 6:30 and 8:15 p.m., Latter Day Saints fields, 47th and Oceanview Blvd.

SQUARE DANCING—New beginners class opens Sept. 13. Call CRA office, ext. 1245, Plant 1, or M. E. Scholz, ext. 663, Plant 2, for registration. Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave. Party night, fourth Saturday (Aug. 25).

WATER SKI CLUB—Regular skiing sessions Saturday mornings, 8-11, off Santa Clara Point, Mission Bay. Call Gene Sevigny, ext. 2779, or Jack Loos, ext. 2456, Plant 1.

CRA Water Ski Club Offers Training, Fun

Water skiing is at peak season now and General Dynamics people may cool off any Saturday, 8-11 a.m., on (and in) Mission Bay.

"Instruction for anyone from first-timers to average skiers is always available," reports CRA Commissioner Gene Sevigny, "and we furnish all necessary gear at our regular Saturday morning sessions off Santa Clara Point."

Additional information about CRA water skiing may be obtained from Sevigny at ext. 2779, or Jack Loos, ext. 2456, both Plant 1.

Sports Car Troupe Travels to Palomar

CRA Sports Car Club members studied space, and covered it too, on their tour to Palomar last Sunday (Aug. 12).

Fred Thatcher, GD/Convair Dept. 24-3, directed the outing from Astro parking lot to Santa Ysabel for a coffee break, then on to Palomar Observatory for a tour of the "big mirror" site.

After boning up on space and astronomy, club members fortified themselves with a picnic spread on the Palomar grounds before the trip back through Rincon Indian Reservation.

CRA Commissioner Gerry Wright invites all newcomers to join in the club's schedule of activities. He may be contacted at ext. 2868, Plant 1, for information.

GD/Astro Lensmen Win Display Honors

Five General Dynamics/Astronautics photographers were honored at the recent Western States Photographic Print Exhibit held in San Francisco.

Top winner was Keith Adams who submitted an entry judged "best industrial print in show." He won a bronze medal for a second entry.

Photos by Cameramen Jack Stevens, Bob Weissinger, Frank Tercey and Walt Gault, all of GD/Astro still photography (Dept. 125), were also selected for display.

Tercey's print was chosen for bronze medal award, while Gault "hung" four prints, and Stevens and Weissinger, two prints each.

Astro Notes Signed For Musical Show

Astro Notes, ARA choral group, will appear in "Pardon My Smoke," a musical comedy to be produced by Musical Theater Guild, a little theater group, Aug. 22 through 25 at Roosevelt High School auditorium.

The Astro organization will perform five numbers during three appearances in the show. Director Jim Rogers will lead them in "Bye Bye Blackbird," "No Business Like Show Business," "Grand Old Flag," "Give Me Your Tired," and "This Is My Country."

"Pardon My Smoke" is planned as a benefit for blind children.



LOADING—General Dynamics boys of Air Explorer Squadron 340, sponsored by GD/Convair Management Club, load equipment on truck just before departure Aug. 3 from San Diego on rapids-running voyage down Rogue River, Ore. They are due back this weekend.

Sports & Recreation

Carlton Oaks Club Will Be Site Of Championship Golf Tourney

GD/Convair and GD/Electronics linksmen will tee off in the annual Plant Golf Championship tourney Sept. 8, 15 and 22 at Carlton Oaks Country Club under direction of CRA Commissioner Ken Wulfemeyer.

Those eligible may phone Molly, ext. 1705, Plant 1, for entries Aug. 15 through Aug. 24.

Eligibility requirements are an established handicap and participation in at least three CRA tournaments. Greens fees are $3.50 per round for the match-play tourney.

Winners of the CRA tournament at Circle "R" course, July 14-15, in the 0-14 division, were: low gross, Ray Minutello, Dept. 6, and Glen Grantham, Dept. 133, who tied with scores of 77. Tying for low net in this division were George Hasti, Dept. 180, and Bill Matlock, Dept. 6, with 67.

In the 15-21 bracket, low gross winner was Bill McCarthy, Dept. 6, shooting 77, followed by Ken Eastin's (also Dept. 6) 80. Dean Spencer, Dept. 91, captured low net honors, firing 64 to nose out Jake Moore, Dept. 25, with 65.

In the 22-and-over division George Nichols, Dept. 6, edged Lewis Scott, Dept. 6, 91-92 for low gross honors. Jerry Kick, Dept. 400, won low net title with 63, topping a runner-up score of 66 by Jinks Janssen, Dept. 14.

Electronics Tops First-Half Play In CRA 'Slow Pitch' Schedule

GD / Convair Electronics unleashed a vicious slugging attack Aug. 1 to emerge as first-half champions of the GD/Convair "slow pitch" softball league.

Convair Electronics, finishing an undefeated first-half season, smashed their way to a 10-2 lead by the fourth inning of the deciding tilt, then held on to edge previously unbeaten Stores & Dispatch Plant 1, 12 to 10. Stores & Dispatch threatened with three runs in the sixth, closing the gap to 11-10.

For the winners, Ron Knudsen hit 3 for 4 including a homer in the sixth for the deciding run and Cece Layman belted a grand-slam homer in the third, going two for three. Val Valencia collected 2 for 4, including a three run circuit clout in the fourth. Larry Turchick hit a round-tripper in the final frame and starred afield.

Pacing the losers' attack were Carl Creager, who drove in five runs with two hits in four trips, and Norm Dahl who collected a double, triple and homer in four times at bat. Dahl's play at second base robbed the winners of hits throughout the contest.

In other Aug. 1 play, GD/E Purchasing beat GD/E Production Control 11 to 6 and Fire Department tromped Manufacturing Control Plant 2, 21-9. Accounting out-slugged Hi-Lows 25-21 for their first win.

GD/Convair Electronics garnered the season's only shutout, 22-0 over Accounting, July 25. The game was marked by strong defensive play and lusty hitting by the winners. Stores & Dispatch trod on GD/E Production Control, 26 to 4, to set up the title match. Hi-Lows edged Fire Dept., 11-9, in the only other game played.

Second-half action began Aug. 8 pitting GD/Convair Electronics vs. GD/E Purchasing, Stores & Dispatch vs. Accounting, Manufacturing Control Plant 2 vs. Hi-Lows and Fire Dept. vs. GD/E Production Control.

A full slate also is on tap tonight (Aug. 15) with two games beginning at 6:30 and two at 8:15. CRA Commissioner Pete Beyrer has invited everyone to attend the free games at Latter Day Saints fields, 47th and Oceanview Blvd.

FINAL FIRST-HALF STANDINGS

	Won	Lost
GD/Convair Electronics	7	0
Stores & Dispatch Plant 1	6	1
GD/E Purchasing	5	2
Hi-Lows	3	4
Fire Department	3	4
Manufacturing Control Plant 2	2	5
GD/E Production Control	1	6
Accounting	1	6



SLOW PITCHERS—Members of GD/Convair Electronics team, first half winners in "slow pitch" league, relax after 12-10 victory. Back row, from left: Pat Kane, Bob Baker, Ron Knudsen, Newman Bergen, Bob Myers, Larry Turchick; front row: Jim Schmidt, Lou Campos, Armando Valencia, Cecil Layman, Gil McCoy, Dick Jacobsen.

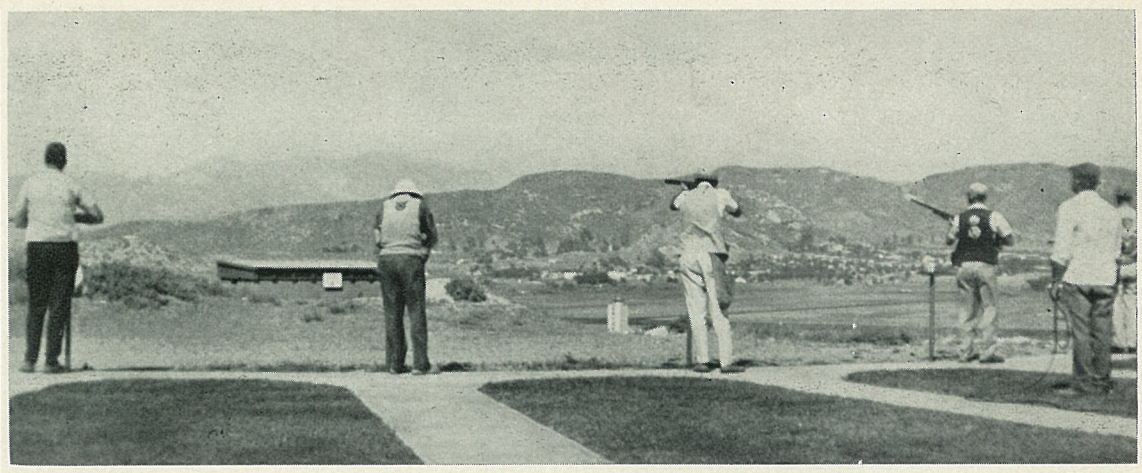
Code Classes Slated By Radio Amateurs

Signals transmitted from CRA Radio Club say the Aug. 16 (tomorrow) 8 p.m. meeting will lay plans for code classes to begin around mid-September.

Classes are slated to aid aspiring "hams" to pass code test requirements for novice amateur radio license. Newcomers as well as members are eligible for instruction.

CRA Commissioner Jim Lack has extended a welcome to all GD/Convair and GD/Electronics employees interested in ham radio operation to attend the meeting at the club's Harbor Drive headquarters.

For further information regarding Radio Club activities, call Lack at ext. 2958, Plant 1.



AT READY—Convair's Gillespie Field range was scene of joint CRA-ARA Gun Club registered trap shoot earlier this month as 60 contestants from throughout Southern California took places on firing line. Prizes of silver service went to winners in three categories. Clubs plan 50-bird skeet shoot later this month.



AWARD WINNER—Jack Rogers, winner of Class B 16-yard event at trap shooting meet, displays silver tray presented for his accomplishment.

Dance Classes To Open Soon

Squares will start forming to the right for the coming beginners class in fundamentals of dosi-do, said Maury Scholz, CRA commissioner.

Registration is open now for the new instruction course starting Sept. 13. It will be held for a period of 30 weeks every Thursday evening at 8 p.m. in American Legion Hall, 4061 Fairmount Ave.

Single registrations, as well as couples, are accepted. Don Browne, Hoedowners caller and instructor, will lead beginners through their basic steps. Cost is a mere 50 cents per person for each lesson.

"And where can you get an evening full of entertainment, with refreshments often thrown in, for 50 cents?" said Scholz.

He will give information at ext. 663, Plant 2, or call CRA office, ext. 1245, Plant 1.

Intermediate and advanced square dancing sessions continue each Tuesday evening at 8 p.m. at the same location.

CHARM INSTRUCTION SLATED FOR LADIES

GD/Convair and GD/Electronics ladies may spruce up for fall in IRC-sponsored self improvement classes beginning next month.

Edith Antelline, well-known charm school instructor, will conduct basic and advanced classes during the fall and winter months at reduced prices.

She will take application for either course at her home phone, GL-4-7995. Fee for basic course is $13.50 each; advanced course, $19.50.

The six-week basic course will start Sept. 19, 7-9 p.m., and extend through Oct. 24. Advanced course is Oct. 31 through Dec. 5. Both meet in Room 11 of the Balboa Park Conference Bldg.

Registered Trap Meet Attracts Host of Shooters to CRA Range

Entries from throughout Southern California swarmed to Gillespie Field range for the CRA-ARA Gun Club's registered shoot Aug. 5.

Sixty trap shooters from Hemet, El Centro, Monterey Park, Torrance, South Gate, Downey, San Clemente and local areas vied for top prizes in three categories, and over 100 spectators made the shoot a "whopping success" according to CRA Commissioner Jack Swank.

Silver service prizes went to winners in all events (100 birds per event), plus second place in handicap class.

Winners in 16-yard event were: Class A, Art Carey, 99; Class B, Jack Rogers of GD/Convair Dept. 48-95, 99; Class C, Gene Lumsden (won shoot-off from Lee Galland), 94; Class D, Bill Betteridge, 96.

Doubles champ was Tom Hodgson, who broke a three-way tie with Warner Gatterman of GD/Astro and John Smith, scoring 87. Hodgson, who hails from San Clemente, also won the handicap event with a 98. Jack Rogers collected his second prize of the day by hitting 94 for runner-up.

Other handicap winners were Gene Lumsden of South Gate, high junior with 92, who became the third double-prize winner, and Lillian Fritzen from Torrance, scoring 85, to capture the high award for women.

"We were glad to see eight ladies competing in the shoot," Swank commented. "We will have a 50-bird skeet shoot Aug. 26, 10 a.m., and hope even more will participate."

Free Archery Class Slated

Aspiring "Robin Hoods" and "William Tells" from GD/Convair and GD/Electronics soon will have a chance to learn from CRA Archery Club instructors.

Weekly instruction sessions will begin Saturday, Sept. 15, 10 a.m. at Morley Field, foot of Texas St. Lessons are free for employees and families.

"Archery is even more fun when the whole family participates together and develops a common interest," said CRA Commissioner Al Phipps. "Many families have competed in matches as a unit," he added.

"We'll be glad to teach both children and adults," Phipps continued, "but all must have their own equipment (bows, arrows, quivers, etc.). Instruction will be for beginners as well as for those who have been shooting for some time. How many sessions we have depends on attendance. The more the merrier."

For further information, call Phipps after Sept. 1 at ext. 2594, Plant 1; evenings, call CY-5-8194.

Delta Skin Divers Will Meet Aug. 21

Delta Divers, CRA skin diving club, will hold their regular (third Tuesday monthly) meeting Aug. 21, 7:30 p.m., in GD/Convair cafeteria executive dining room, Pacific Hwy.

"All General Dynamics employees interested in skin diving are welcome to attend the meeting," said Harry Ruscigno, CRA commissioner.

DISCOUNT TICKETS NOW AVAILABLE

Discount tickets to "The Forest Prince," Aug. 25-26, 8:30 p.m., Balboa Park Bowl, are offered to General Dynamics employees at employee services, Bldg. 32, Plant 1.

"The Forest Prince," music by Tchaikovsky, is a youth musical presented by San Diego Park and Recreation Department. Discount tickets (25c off for adults, 15c, children) may be exchanged at Thearle Music Co., 640 Broadway, or Balboa Park Bowl.

* * *

Special discount tickets to Starlight's presentation of "Bye Bye Birdie" will be available Aug. 22 for GD/Convair and GD/Electronics employees at employee services, Bldg. 32, Plant 1.

Tickets for Aug. 30 through Sept. 9 shows may be exchanged at Starlight box office, Thearle Music Co., 640 Broadway, or Balboa Park Bowl, allowing 20 per cent discount. All showings start at 8:30 p.m.

Lensmen Slate 'Snails' Film

"Snails" will highlight the CRA Camera Club meeting Aug. 27, 7:30 p.m., in Photo Arts Bldg., Balboa Park.

The color movie, 25 minutes in length, took Sid Laverents (GD/Astro Dept. 964-3) and his wife three years to produce. Laverents did his own animation and narration on the movie version of the snail's life using only "local talent, garden variety."

"Occasionally the 'stars' escaped but there were plenty more available," said Laverents.

The film was so successful (San Diego City Schools bought it for use in their curriculum), the energetic Laverents team is making plans for another production dealing with butterflies.

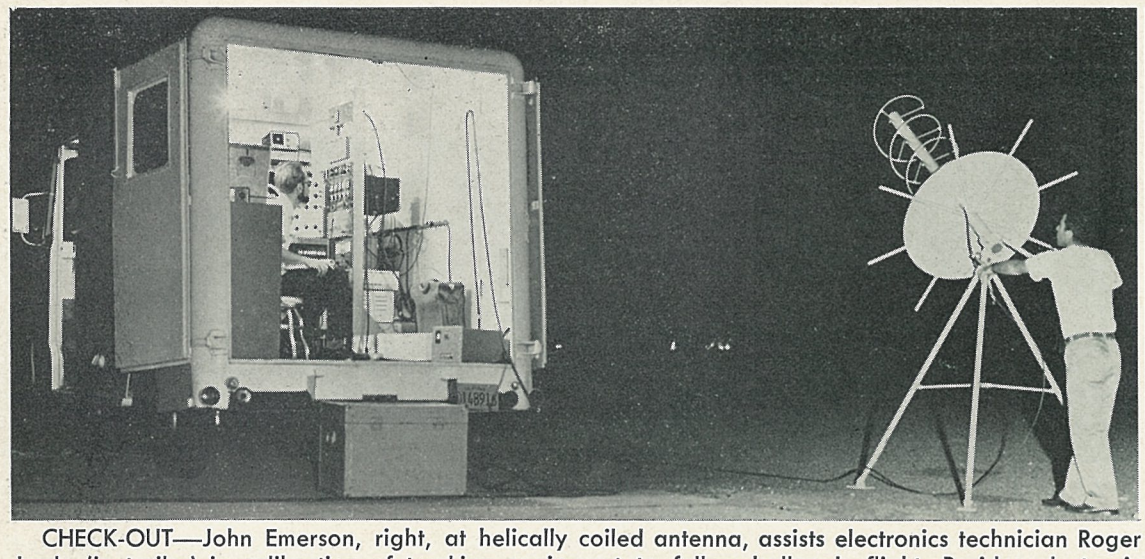
CRA Commissioner Ron Ainsworth invited General Dynamics folk to view the film at the meeting. He emphasized there is plenty of room for everyone wishing to attend.

FAIR PROGRAM SET FOR TRAILER CLUB

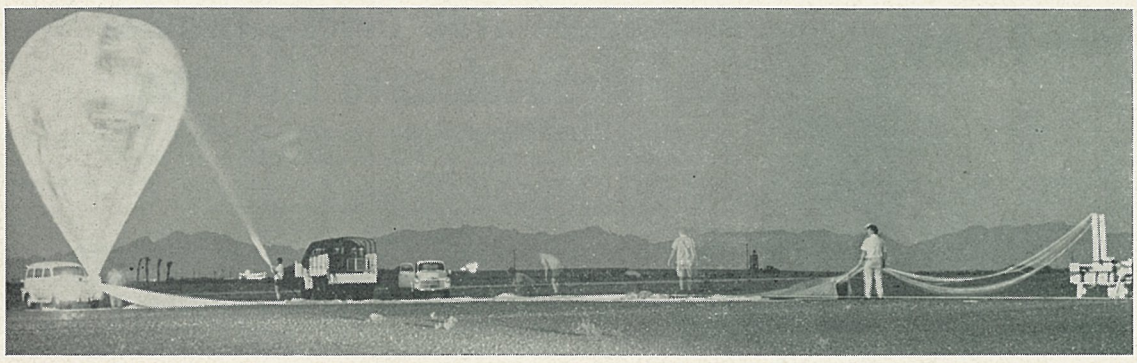
CRA Road Runners will see views of the World's Fair at their meeting tomorrow (Aug. 16), 7:30 p.m., at Gillespie Field Clubhouse.

Harry Rush will show slides of his trip to Seattle and into Canada following the 7 p.m. business meeting of the judicial board. Dancing and refreshments will complete the evening. All members have been urged to attend.

Next outing for the trailer group is planned over Labor Day weekend, Aug. 31-Sept. 3, to Hulburd's Grove Resort at Descanso. Ted Weinberg will be wagonmaster, with John Woodhead assisting.



CHECK-OUT—John Emerson, right, at helically coiled antenna, assists electronics technician Roger Jerde (in trailer) in calibration of tracking equipment to follow balloon's flight. Besides electronic devices, flight was tracked optically from ground and from airplane.



MAKING READY—In pre-dawn hours crew unrolls polyethylene balloon from reel on truck (right foreground), laying out 140-foot shroud prior to inflating it with helium.

Balloon Gathers Radiation Data During Two and Half Hour Flight

General Dynamics/Astronautics scientists have again utilized man's oldest form of air travel—a balloon—to gather data that may prove important to rocket-powered space flights of the future.

A select crew from Astronautics' space physics organization launched the 140-foot-high polyethylene bag filled with helium Aug. 2 from an abandoned air strip near Dateland, Ariz. Lift off was at 5:34 a.m.

For about two and one-half hours the balloon soared upward, reaching a maximum altitude approximately 24 miles above the earth. Winds of about 57 miles per hour carried it south and west. At a given signal the balloon's instrumented payload was detached from the balloon and floated to earth by parachute. It was picked up a short distance from Highway 80 near the Imperial County Airport, El Centro.

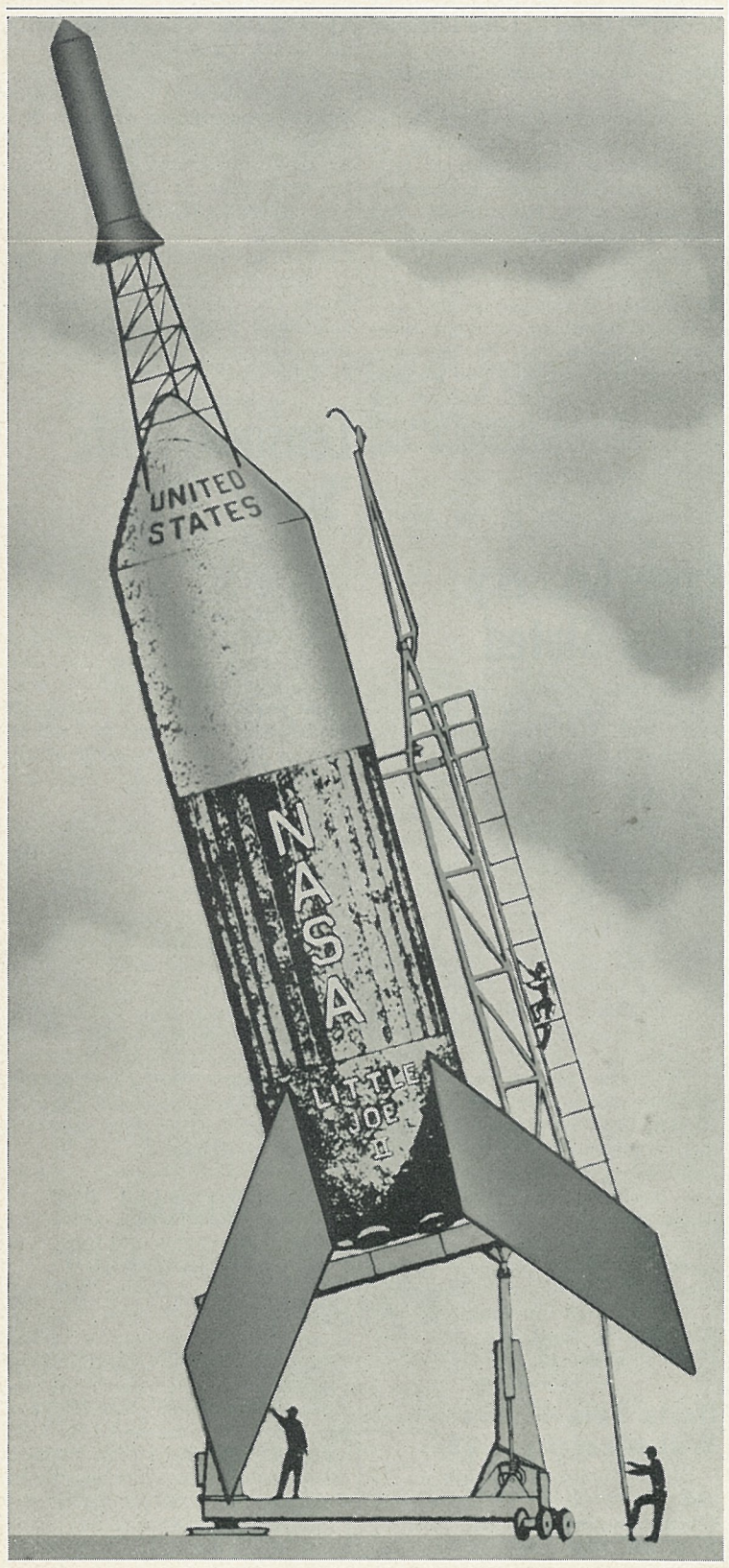
During the climb and descent, an instrument known as a scintillation counter measured radiation intensity and flashed the findings back to earth.

Both a ground station at Dateland and an aerial station carried aloft by an accompanying aircraft recorded data.

Balloon flights are nothing new to this crew. They have conducted about 10 each year in special experiments. Most are part of studies of X-ray radiation in space with earlier flights collecting data on X-rays produced by the sun.

The Aug. 2 flight was different in that it was made to gather data on background X-rays, or those present from sources other than the sun.

Dr. James I. Vette was in charge of the crew conducting the flight.



BIG BOOSTER—Above is first artist's illustration of Little Joe II, rocket-powered launch vehicle, under construction at GD/Convair for NASA to boost Apollo space craft on unmanned, suborbital test flights. GD/Convair will build barrel sections (shaded), fins and launch stand. Complete unit will be 103 feet tall.

Club Committee Heads Chosen

Twenty-eight GD/Fort Worth Management Club committee chairman for 1962-63 have been named by President Miles Rogers. They are:

A. S. Witchell, research; C. T. York, visitation and flowers; J. T. Jenkins, management development; E. W. Reynolds, special events; R. T. Yaggi, junior achievement.

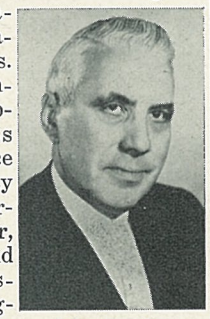
R. L. Sullivan, sergeant-at-arms; T. R. Boley, budget and audit; L. L. Jarl, retired members; S. E. Keith, B-36 monument; E. L. Clerc, awards; M. G. Gross, public relations; E. D. Mathis, Fix-a-Toy; J. C. Herr, program; J. D. Ancy, speakers bureau and Toastmasters.

B. Q. Greene, property guardian; J. M. Lankford, search and rescue; E. J. Polasek, Boy Scouts adviser; L. B. Messersmith, historian; J. J. Kenna, ways and means; W. R. Ellis, tours; G. E. Symm, bowling; D. W. James, ticket distribution; Ken Hargrove, booster and membership; E. E. James, indoctrination; B. E. Justice, Camp Leonard; Al Freedman, physical fitness; P. H. Billman, management conference; G. S. Dean, Lena Pope Home; and E. M. Kerlee, invocation.

John Dundas to Direct Sales Effort Abroad

John A. Dundas has been appointed a vice president of General Dynamics Corporation, Roger Lewis, president, announced last week. He will assume his new duties today (Aug. 15) at corporate headquarters in New York City.

Dundas' primary responsibility will be to coordinate and expand the Corporation's international activities. General Dynamics has 12 operating units which produce a wide variety of space, aircraft, nuclear, electronic and undersea systems. In recognition of the growing importance of overseas business to the United States economy, Lewis said, General Dynamics intends to intensify its efforts on international sales.



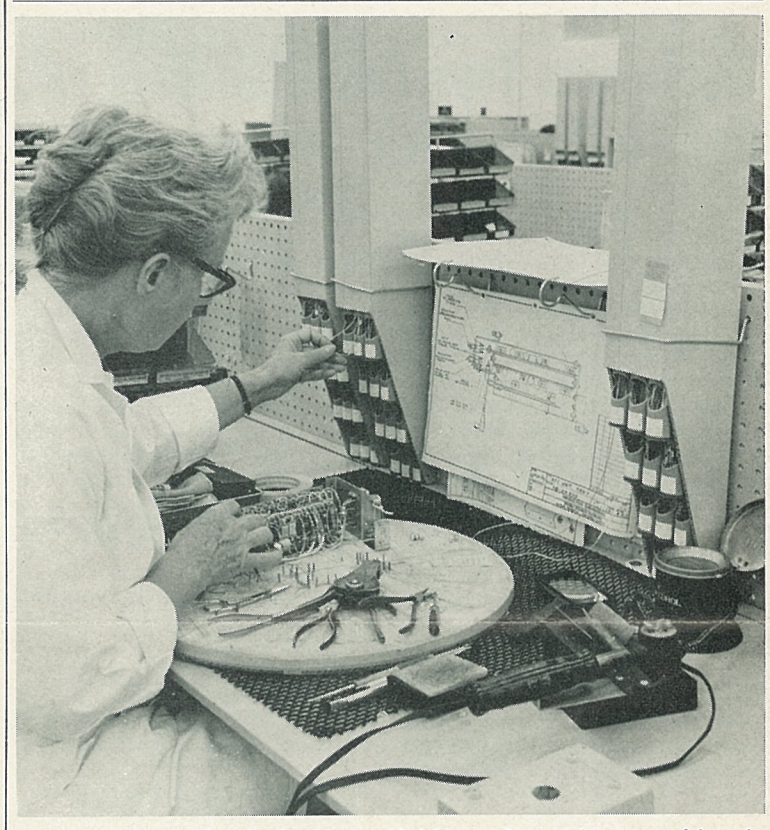
John Dundas

Dundas has been executive vice president and a director of Douglas Aircraft Corporation, Santa Monica, Calif.

Dundas has been with Douglas since 1944 when he became a member of its legal staff. Named general counsel in 1952, he was appointed vice president in charge of administration in 1957. Later in the same year, he was named executive vice president of the company and elected to the board of directors.

A native of Portland, Oregon, Dundas was born in August, 1905. He received his B.A. degree in 1927 and an LL.B. in 1930, both from the University of Southern California.

Admitted to the California bar in 1930, Dundas practiced law in Los Angeles for the next nine years. From 1939 to 1944 he served in the Los Angeles city attorney's office and as regional enforcement executive on the Pacific Coast for the Office of Price Administration.



EASY PULLING—Ruth Mary Holden, electronic assembler in GD/Electronics at San Diego, finds it simple to select correct wire from new-type "pipe organ" dispenser.

'Do-It-Yourself' Project at GD/E Nets Dollar-Saving Wire Holder

A new type container for wire storage and handling in electronic assembling has come out of a "do-it-yourself" project in General Dynamics/Electronics production engineering at San Diego.

George Patrick, supervisor of methods, process specification, and production plans, came up with what is aptly known as the "pipe organ" wire holder after searching the field for a device to hold the many different lengths of wires used at assembly work stations.

Main objective was to design a holder that would store the largest number of wires in the least space; one that would allow an assembler to select a wire at a time without an entire bundle tumbling down.

Now, 60 work stations in the GD/Electronics assembly area at Plant 1 are equipped with 220 upright cardboard cartons. Glass-ine-lined mailing tubes within the cartons contain properly-cut wires, labeled in sequence, for each assembly. Assemblers can draw individual wires out of mouths cut in the lower end of the tubes.

Containers are secured by wire clips when upright, taken down and laid flat for refilling.

Vern Johnson, GD/E packaging specialist, helped work out details of the simple but effective containers, which, made in GD/E fabrication, cost less than $4 apiece. A special tool of aluminum cuts the wire removal slots on a metal saw, six at a time.



"Where? The Belgian Congo? . . . Well, keep after him!"

GD

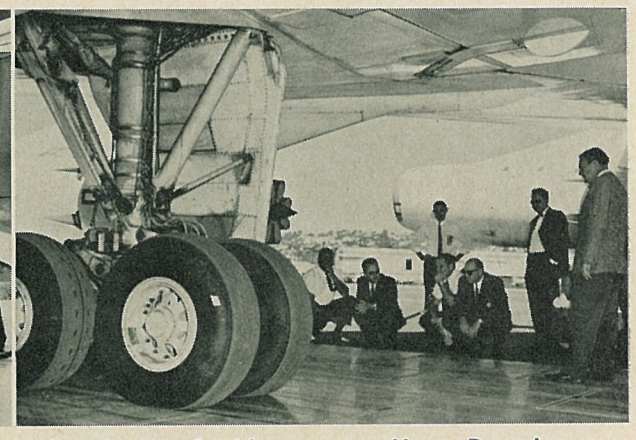
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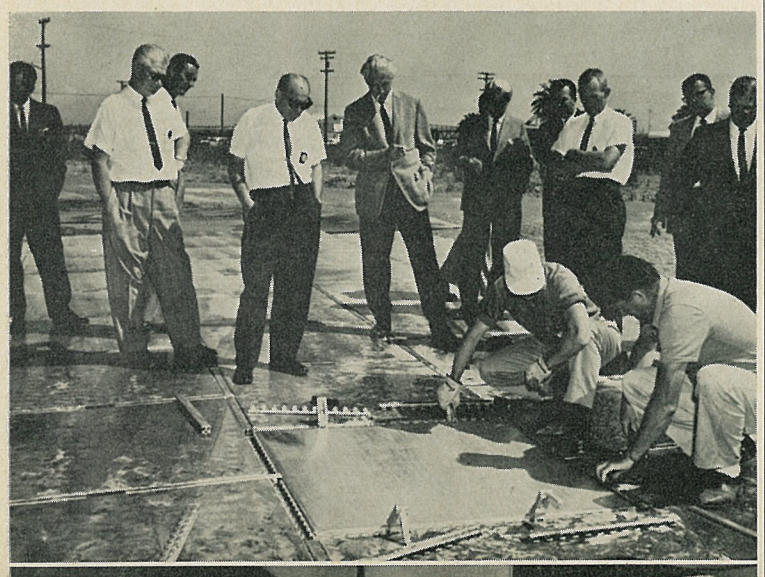
Vol. 15, No. 18 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 29, 1962

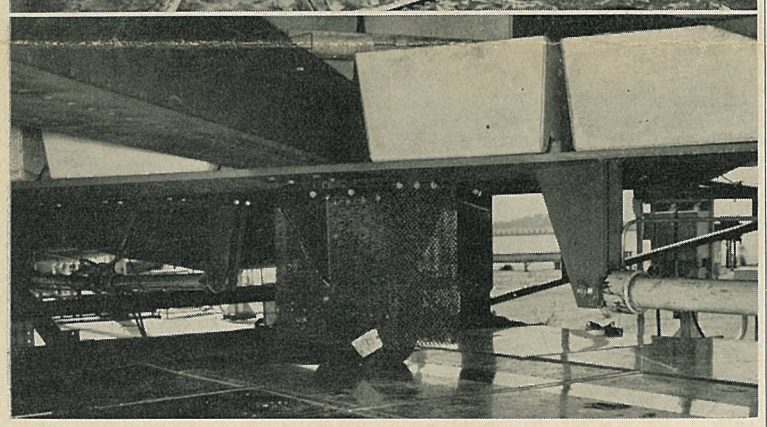






TOUGH MATS—During gueling tests at GD/Convair, SATS mats specimens are shot at, trampled by heavy trucks, planes. At left, Bob Pearce, SATS mats project engineer, takes close look at mat used as target for Marine Corps riflemen during ballistic tests. In center, C. L. Jackson, program manager, steps out briskly to see how mats stood up under huge crash truck. (Observing tests, besides division executives, are engineers vitally concerned with program: Harry Dvorak, group engineer; G. L. Pankey, design specialist; Phil Kissel, test engineer; Bill Service, design engineer.) At right, GD/Convair group surrounds President J. H. Famme as they rivet attention on heavy (160,000-lb.) Convair 880 rolling over locked mats. Mats now are undergoing NAMC qualification tests.

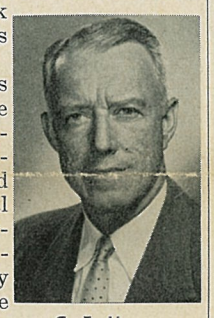




LOADED—Lower shot shows unique test rig, one of two in country, at GD/Convair structures lab facility putting 20 tons pressure on GD/Convair-designed SATS mats. In upper photo Al Cox and Homer Killgore, both Dept. 171, show how fast separate mats can be taken out and replaced (5 minutes per mat) in landing field set-up. Watching demonstration are (from left) M. E. Kruger, F. H. McLaughlin, B. R. Hisaw, J. H. Famme, Bill Service, Paul Jennings and Tom Crowley, both Camloc Fastner Corp. reps, R. M. Hatcher, Jack Kenna, W. R. Bruce.

Tighter Rein On Costs Seen In Electronics

The $13-billion-a-year electronic industry is doing 70 per cent of its business with the government, C. F. Horne, General Dynamics senior vice president and president of General Dynamics/Pomona and General Dynamics/Electronics, told the Los Angeles Society of Financial Analysis in a talk earlier this month.



C. F. Horne

Horne, who is president of the Electronic Industries Association, predicted that a radical switch in government procurement policy will increase competition in the electronic field and bring changes.

"The change in procurement policy—from cost plus fixed fee to the cost plus incentive fee contracts—calls for far better estimating cost controls, and tighter profit margins, as well as increased administrative expenses," Horne explained.

"Electronic management is alert to the need for a proven return on its investment," Horne noted. "You will see more and more electronic companies branching out into industry, and consumer markets to provide a better balance of contracts between government and commercial areas."

Horne pointed out the possibility of using a solid base of government work as a springboard into nongovernment development and production. "The

(Continued on Page 2)

Test Landing Mats Get Rigorous Treatment

Test landing mats fabricated at General Dynamics/Convair for Marine Corps jet fighter portable landing fields are now at Vicksburg (Miss.), Research and Development Center undergoing evaluation.

Go-ahead for production of 27,000 of the aluminum mats for the first landing field pends certification by Naval Air Material Center following results of the current series of tests, said C. L. Jackson, GD/Convair program manager of the SATS (Small Airfield for Tactical Support) mats project.

Before they left the San Diego plant, mats were put through the most grueling tests possible, taking double the amount of punishment required for NAMC certification.

"Results were most encouraging," reported Jackson. "Our mats proved that they can stand up under the heaviest moving loads without damage.

"Analyses showed that they not only are strong and resilient in loose, sandy soil, but can be laid faster on an overall field basis than any other type under consideration.

"Individual mats can be removed and replaced in a matter of minutes—an important factor if a section of the field were damaged during a crash landing while other planes waited in the air to land."

At the San Diego division the first mats stood up under 20 tons of weight, equivalent to two 10-ton gravel trucks fully loaded on one wheel, at the special test rig set up at the structures laboratories facility.

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Training in 'Space Age Reliability' Offered to All Key Employees

As General Dynamics divisions face the challenge of reliability in space age production, special training courses have been inaugurated at GD/Convair, pointing up the importance of the more and more rigorous standards demanded by governmental and commercial customers.

"Space Age Reliability" training will be given everyone at GD/Convair and GD/Electronics who are connected with any of the divisions' production programs upon request, H. W. Rubottom, chief of educational services, said.

By the end of this week 82 supervisors from GD/Convair shop and inspection functions will have concluded initial training. Eight classes of three one-hour sessions have been under way since mid-August.

"Basic instruction will be followed with monthly refreshers to keep reliability (with a capital R) uppermost in the minds of everyone," said Rubottom.

The extra effort that insures unquestionable reliability was stressed during lecture sessions, with emphasis on need of continual self-improvement and training to keep pace with industrial advances.

In heartily approving the re-

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GD/Convair to Install Test Cameras on F-102s

General Dynamics/Convair has been awarded a $92,000 Air Force contract to design and install photographic and test instrumentation in two Convair F-102A jet interceptors and prepare two other kits for use in the field.

The photo equipment — motion picture cameras that record the pilot's fire control system scope presentation and dial settings (airspeed, altitude, heading) in the missile bay—will aid the Air Force in development of the 412L weapons control system.

An overseas version of the Air Force's semi-automatic ground environment system, the 412L will work in conjunction with the jet interceptor's electronic guidance and fire control system and direct the plane on its target intercept mission.

By comparing the film record of what the plane was commanded to do with what it actually did during the test, engineers will be better able to evaluate effectiveness of the new 412L system.

The photo-test kits are being installed in two F-102As at the GD/Convair plant in San Diego. Two other kits will be sent overseas where their installation will be supervised by a company engineer.

The photo kits are designed so that they can be removed in 15 minutes, restoring the aircraft to full tactical status. The contract was awarded and will be managed by the Electronic Systems Division of the Air Force Systems Command, Laurence G. Hanscom Field, Bedford, Mass.

Nova Studies Offer Breakthrough Hope

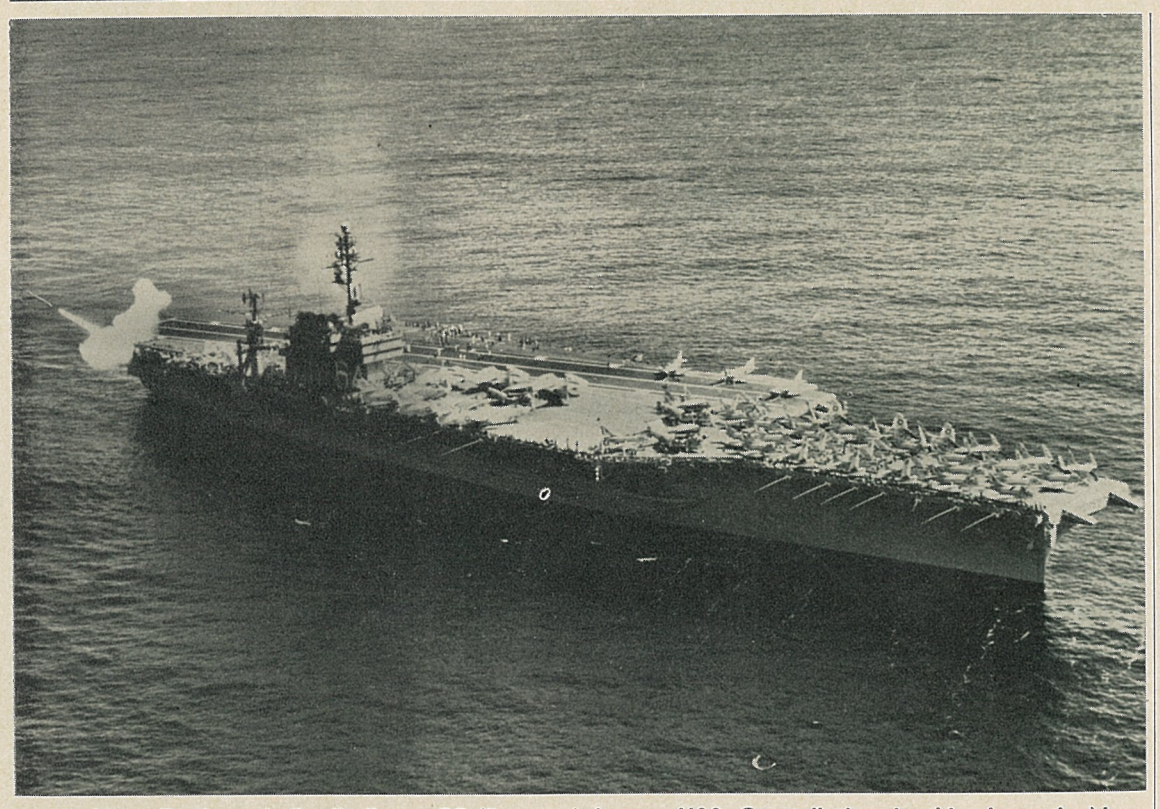
Experimental manufacturing work aimed at developing advanced techniques will be a key objective at General Dynamics/Astronautics during a nine-month study and preliminary design contract for Nova space vehicle systems.

Details of the $1-million award were announced this month by the George C. Marshall Space Flight Center, National Aeronau-

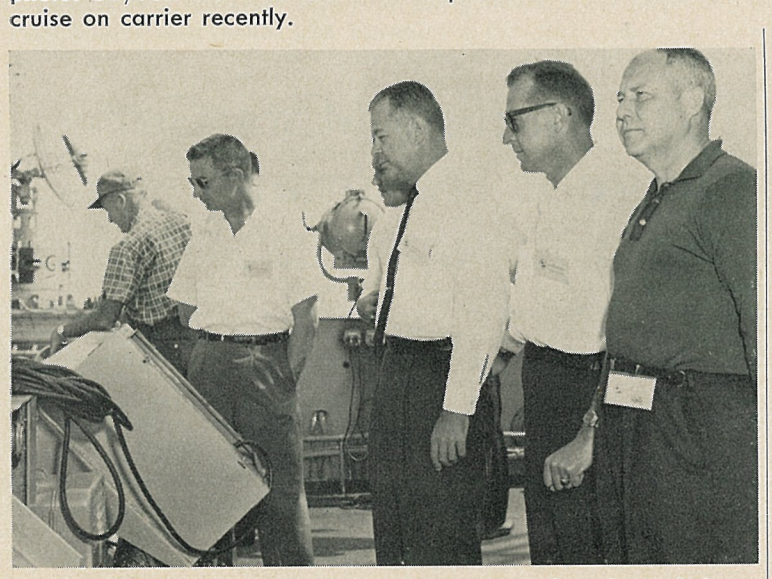
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WINGED ATLAS? — Atlas missile unloading from C-133 at Walker AFB, Roswell, N.M., merges with aircraft's wings and tail until they seem a part of it. Missile is destined for silo installation.



AT SEA—Terrier missile (built at GD/Pomona) leaves USS Constellation in this dramatic Navy photo. GD/Fort Worth observers and representatives from Grumman Aircraft Engineering Corp. made cruise on carrier recently.



OBSERVERS—Taking first hand observations of carrier techniques are, from left, Dick Johnson, GD/FW manager of flight; Frank W. Davis, GD/FW president; Gordon H. Ochenrider of Grumman; J. T. Cosby, GD/FW vice president-TFX program director. Partly obscured by Davis is H. B. Henderson of Washington office.

Dynamics and Grumman Send Observers to Sea

General Dynamics and Grumman Aircraft executives went to sea for three days recently to see how the U. S. Navy operates its newest and biggest aircraft carrier.

Making the trip from Norfolk, Va., to Jacksonville, Fla., aboard the USS Constellation were Frank W. Davis, GD/FW president; J. T. Cosby, GD/FW vice president-TFX program director; Dick Johnson, GD/FW manager of flight; H. B. Henderson, GD Washington office; and Gordon H. Ochenrider of Grumman Aircraft Engineering Corp.

GD/FW and Grumman are partners in final competition with Boeing to build the TFX fighter for the Navy and Air Force.

"We were fortunate in being able to observe in detail the Navy's latest techniques for handling modern jet aircraft from their newest and most sophisticated carrier," said Cosby.

"The experience will undoubtedly enable our engineers to take a most realistic approach in fulfilling customer needs."

(Grumman Aircraft Engineering Corporation, with whom General Dynamics/Fort Worth is associated in the TFX competition, currently has a staff of about 60 assigned to GD/FW, headed by A. L. Lemline as program manager. The Grumman team is assisting in prime design.)

The big ship is equipped with Terrier missiles, built by GD/Pomona.

Several members of the General Dynamics-Grumman team boast previous flying experience with the Navy, directly or indirectly.

Davis was for four years a Marine pilot. Both Henderson and Ochenrider are former Navy fighter pilots, the latter being a graduate of the U. S. Naval Academy.

Henderson was also formerly a production pilot for General Dynamics/Convair at its Palmdale facility.

Johnson, former Air Force lieutenant colonel and once holder of the world's speed record in an F-86, is one of the few pilots ever to have flown every delta-wing plane built in the U. S.

General Dynamics NEWS

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Nova Studies Hold Hopes of Breakthrough

(Continued from Page 1)

tics and Space Administration (NASA).

A parallel study contract was also awarded Martin Marietta Corp. which will coordinate its efforts with those of Astronautics.

Andrew Kalitinsky has been selected by Astro President J. R. Dempsey as Nova program director (**General Dynamics NEWS**, Aug. 15).

Kalitinsky's organization is already at work on such phases as studies to determine the most economical vehicle size, type of design, propulsion system, and number of engines, defining in as much detail as possible the most desirable vehicle that can be built.

Missions proposed for Nova in the 1970s include support of passenger and cargo delivery to the moon's surface; establishment of large space stations in orbit; direct launch of unmanned planetary probes; and orbital assembly of spacecraft for manned planetary missions.

Nova is expected to be capable of boosting a minimum 500,000-pound payload into low earth orbit or a minimum 200,000-pound payload to earth-escape velocity.

While Nova work is centralized into a project organization, no separate departments are being established during the study.

GD/Convair to Begin 8th Value Seminar

Eighth value control seminar at General Dynamics/Convair will start Sept. 10, announced H. P. Williams, value control manager.

Present planning is for 40 men to form eight teams in the cost vs. value training.

Test Landing Mats Get Rigorous Treatment

(Continued from Page 1)

The test set-up simulates as nearly as possible the similar facility at Vicksburg, only one of its type in the country, where the mats will be passed over 1,600 times with 39,000-lb. loads, and 3,200 times with 27,000 lbs. for qualification. The 20 tons represent the heaviest load on one wheel of a remote-controlled vehicle for simulated aircraft load tests.

At GD/Convair's test site the same amount of load is applied by an aircraft wheel attached to a load bar and automatically cycled by hydraulic power.

"The mats survived 3,000 cycles at the 20-ton weight, nearly twice the number scheduled at that weight at the Vicksburg test site!" Jackson said.

Other checkouts saw the mats laid under the most realistic conditions possible—on top of 18 inches of loose, sandy soil—as runways for the company's heaviest equipment and planes.

"We were most gratified to find that there was absolutely no creep or ripple (bow wave) characteristics during high speed runs of a 48,000-lb. fire truck or roll-over of a Convair 880, weighing about 160,000 lbs."

Ballistic tests at Camp Matthews Marine Corps Firing Range saw the mats set up as targets for various types of ammunition to see if they will serve as protective shields for men laying the fields under attack. Further tests will establish their resistance to strafing.

Engineers at GD/Convair now are working on test specimens for weight reduction of the wooden core. These mats also will be checked out in the GD/Convair-built 20-ton test rig before production starts on the automatic line this fall.

The 27,000 mats rolling off the line as the first landing field also will be tested—this time under actual Marine Corps field conditions. Actual aircraft landings and takeoffs will be made.

The 4x4-ft. mats will be moved, lifted, arranged in trucks for best handling methods. At the same time different types of handling tools, including some of GD/Convair design, will be checked out for most efficient kind.

In conclusion, Jackson expressed his sincere appreciation to all departments within the division "who have supported this vital development program with efforts far beyond normal demands."

Tighter Rein On Costs Seen In Electronics

(Continued from Page 1)

companies to watch are those with more industrial, commercial, and, perhaps consumer products," Horne noted.

Two other industry leaders appeared with Horne on the panel sponsored by the Western Electronic Manufacturers Association as a prelude to the Western Electronic Show and Convention Aug. 21-24 in the Los Angeles Sports Arena. They were Richard T. Silberman, executive vice president of Electronics Capital Corp., San Diego, and Emmet G. Cameron, executive vice president of Varian Associates, Palo Alto.

All three sounded notes of optimism for the electronic industry in their discussions. "I am more bullish on properly managed electronic companies than I was five years ago," Horne concluded.

Training Offered To Key Employees

(Continued from Page 1)

liability training program, W. J. Martin, director of reliability, said, "We must all develop a clear understanding of the direct effect an individual error can have on the success of any program!"

Classes will be held on a continuous basis until everyone has had an opportunity for some type of training to conform to highest reliability standards, repeated Rubottom, who stressed the fact that every person involved in a program — engineer, assembler, inspector, dispatcher, trainer — must be closely linked in the drive for top reliability.

Interested supervision may contact W. F. Weidenfeller, educational services coordinator, at ext. 491, Plant 1, for details of coming classes.

B-58 Logs 11-Hour Hop Hunting Gusty Winds

Hustler No. 7 went on the prowl for clear air turbulence Aug. 16 and set a company flight endurance record of 11 hours, 15 minutes in the process.

Val Prahl was pilot and Max Runnion third-station operator on the over-6,600 mile flight over Texas, Arkansas and Louisiana.

Purpose of the flight was to obtain dynamic response data.

"One of the elements in evaluating the life expectancy of an airplane is to get data on its reaction to aerodynamics gusts," said H. T. Johnson, assistant project engineer.

"Gusts created by clear air turbulence—winds not normally associated with clouds—have a definite effect on the plane's life span."

Special instrumentation on No. 7 measured both the intensity of the gust and the plane's reaction to it.

"Clear air turbulence isn't easy to find," Johnson said. "That's one of the reasons Prahl and Runnion had to cover a three-state area in quest of these rough winds."

In order to obtain a wide range of data, Prahl flew No. 7 at various altitudes from 2,000 to 30,000 feet.

The B-58 refueled once near San Antonio during the flight from a KC-135 tanker from Barksdale AFB, near Shreveport.

The flight originated at 8 a.m. from the Carswell strip, and ended at 7:15 p.m. at the same place.

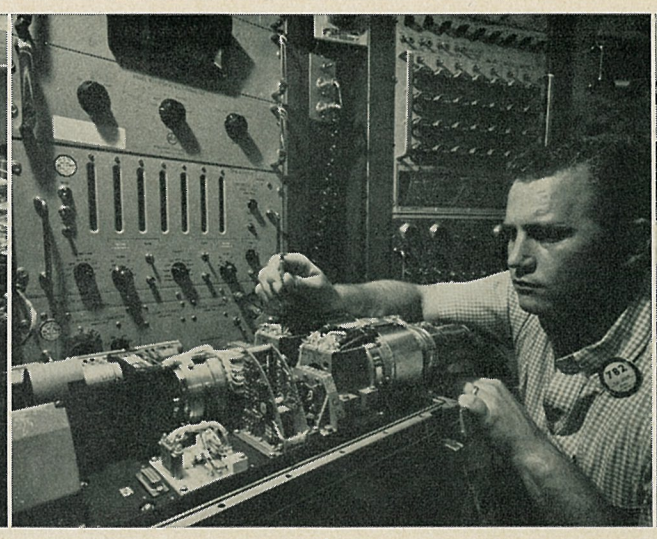
Johnson said that No. 7 had also been used recently for completion of an extensive air loads program. "The GD/FW crew put No. 7 through a wide range of maneuvers at different speeds and altitudes, and with various load and weight factors," he said.

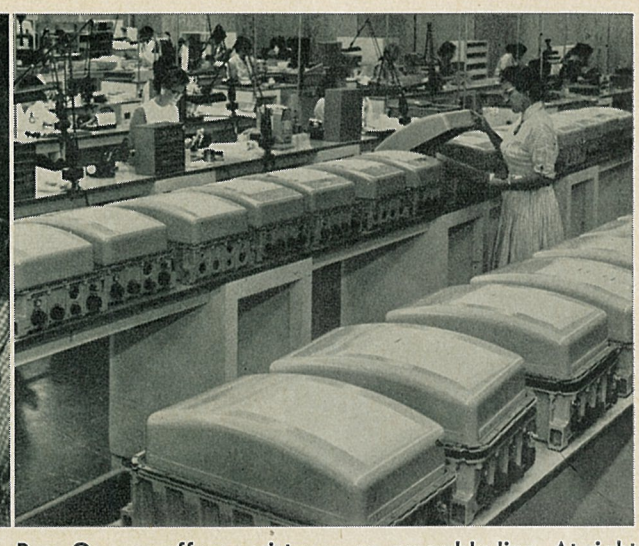
Ground crews were lauded for their part in No. 7's 11-hour-plus flight. "Frenchy" Bourdier is first-shift crew chief, while Johnny Diehl heads second-shift maintenance men.



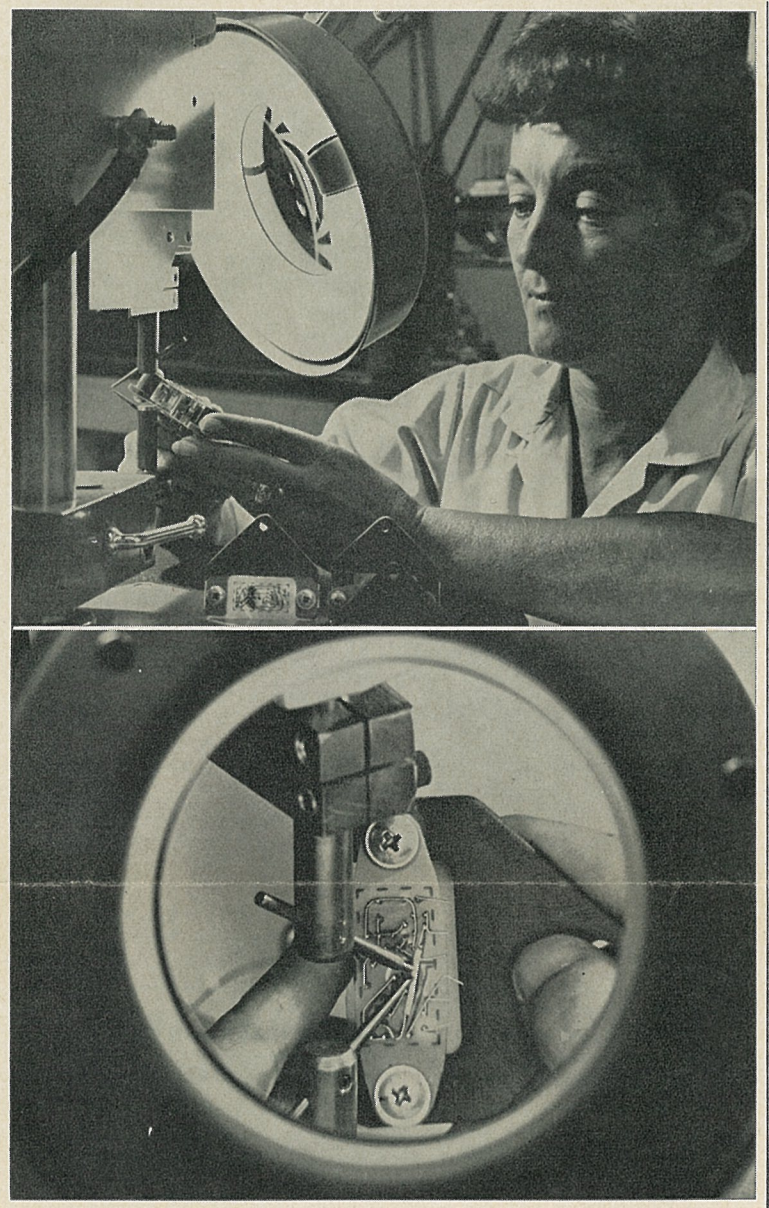
LAST OFF—Last B-58 rolls down line at GD/Fort Worth to begin company and Air Force flights. It will be delivered later this year. B-58 work continues, however, in modernization of aircraft that have been in test work, and in spares production.







BUILT-IN RELIABILITY—GD/Astro personnel at San Diego, whose work requires vast precision and skill, support electronic products program. Some idea of complexity of their products is indicated in center above as H. O. Stone adjusts telemetry package. At left, Russ Oexner offers assistance on assembly line. At right are banks of autopilot programmers being checked by Vickie Marine. Among products produced in program is AZUSA missile tracking system.



DRAMATIC—Carmen Thompson works with deft fingers, guiding tiny module under welding tips. Finished product has great strength, high reliability. Below is what she sees through magnifying lens of ring-light.

AZUSA Tracker Failure Free During Long Period of Use

This month, General Dynamics/Astronautics AZUSA Mark II automatic missile tracking system marked its second anniversary of operation at Cape Canaveral, maintaining a failure-free record over nearly 200 tests!

Produced at GD/Astro by electronic products (departments in the 010-030 series) under executive direction of S. L. Ackerman, vice president and program director, AZUSA is one of a number of precision, high-quality electronic products now operational or under development. Lew Emmerich is assistant program director.

AZUSA is used for ground trajectory measurement with an airborne transponder (also GD/Astro-built). Signal exchange between the two permits ground equipment to predict impact point at all times during flight. The advanced system can also be used for space vehicle command, telemetry data transmission, space-probe tracking, and space communication.

Since installation of AZUSA Mark I at Cape Canaveral in 1953, over 400 missiles have carried AZUSA equipment.

Mark II, with improved accuracy and reliability and the first large ground tracking system making extensive use of solid-state (transistor) design instead of vacuum tubes, replaced Mark I at Cape Canaveral in 1960. The latter was then modified and transported to Grand Bahama Island where it continues service, primarily in Polaris and Minuteman programs.

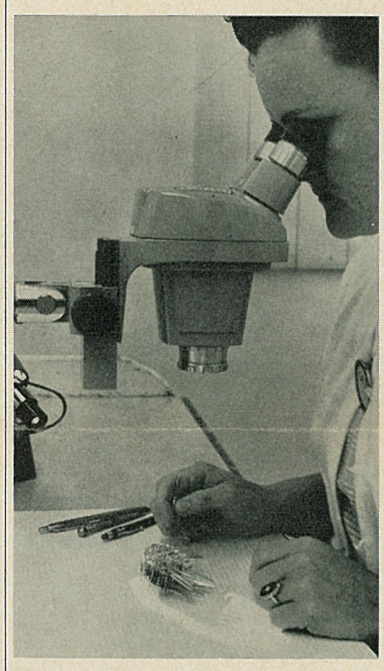
Together with AZUSA transponders, GD/Astro's electronic organization now pours a steady stream of varied equipment from its production facilities in Bldg. 33, with some production carried on in Bldg. 5.

Outgrowth of GD/Astro's 15-plus years of transponder development and production is a recently-announced contract with Air Force Cambridge Research Laboratories for production of a prototype lunar transponder (**General Dynamics NEWS**, Aug. 1.)

The device, weighing less than 10 pounds, will transmit to earth en route to the moon; then continue transmission after surviving lunar impact at about 3,000 times the force of its own "earth weight."

(Such miniaturization is an every-day task for GD/Astro electronic specialists: Astro-built airborne transponders have "reduced" from an original weight of about 100 pounds to their present trim 20-pound size.)

Stemming from highly successful AZUSA is GLOTRAC, a high-accuracy integrated global network for space-vehicle tracking now being designed and developed for Air Force Missile Test Center. Assistant program director for this project is T. H. Scholder.



UP CLOSER — Doris Jensen gives welded module close inspection under great magnification.

For nearly two years, GD/Astro has been producing scientific passenger pods—instrumented packages which permit Atlas and other launch vehicles to supplement their primary missions by carrying other experiments "piggy-back." Curt Bates is assistant program director.

ARENTS, supervised by Assistant Program Director H. M. Ikerd, is a satellite to evaluate the environment of high space—to 20,000 miles. One model of the satellite is now undergoing test in GD/Astro's vast environmental test chamber.

Ackerman cited two principal reasons for GD/Astronautics success in the space field.

"As much as any company in the business, we have an intimate, working knowledge of precision tracking equipment," he said.

"In addition, because of our work with Atlas as a pioneering ballistic weapon and space launch vehicle, we have a thorough understanding of ballistic and orbital flight trajectories and the associated tracking problems."

In fabrication, GD/Astro is one of the first companies to apply the high-density "welded module" technique of electronic manufacture on a production basis, Ackerman explained.

First used on autopilot systems, the technique which involves making electrical connections by welding instead of conventional solder, is now being used in GLOTRAC manufacture. It results in extremely compact construction.



MOVING SKYWARD—Atlas missile going through tests at Altus AFB rises from silo spouting vapor through liquid oxygen boil-off valve. Operation was part of continuing check "birds" go through in validating facilities. George Smith, Astro photographer at Altus, made this shot.

SAC Railway Trains Operate As Mobile Bombing Scorers

Dormitories on rails have joined the inventory of Strategic Air Command.

An eight-car train serving the 15th Air Force (composed of bases in western U. S.) has been provided for the 65-man crew which operates SAC's mobile radar bomb scoring (RBS) trains.

There are three of these trains in operation in the U. S. to provide B-58, B-52 and B-47 jet bomber crews with a wide range of unfamiliar targets and routes.

Second and Eighth Air Force trains will receive identical equipment later in 1962.

The eight-car train is self-sustaining, with four cars divided into compartments to allow comfort and privacy for men during off-duty hours. Each car provides accommodations for 18.

Other features include electric washers and dryers, washroom facilities, and a utility car which offers space for a base exchange and movie projection area. The dining car has facilities to seat 40 men at one time.

GD/Astro Son and Former Employee Completing Peace Corps Training

LINCOLN AFB—Michael Eiland, a former GD/Astronautics employee here and son of Astro's Gordon Eiland, traffic and stores foreman here, is now in the final phase of training for Peace Corps service.

He recently returned from four weeks of training for Peace Corps duty in Puerto Rico. Final training is at Putney, Vt. While Eiland is not sure of his initial assignment overseas, he hopes to go to Peru.

During Puerto Rico training he and fellow students spent 12 hours per day in classes on nutrition, Spanish, Latin American history, world affairs, health, medicine, physical education and Communist tactics.

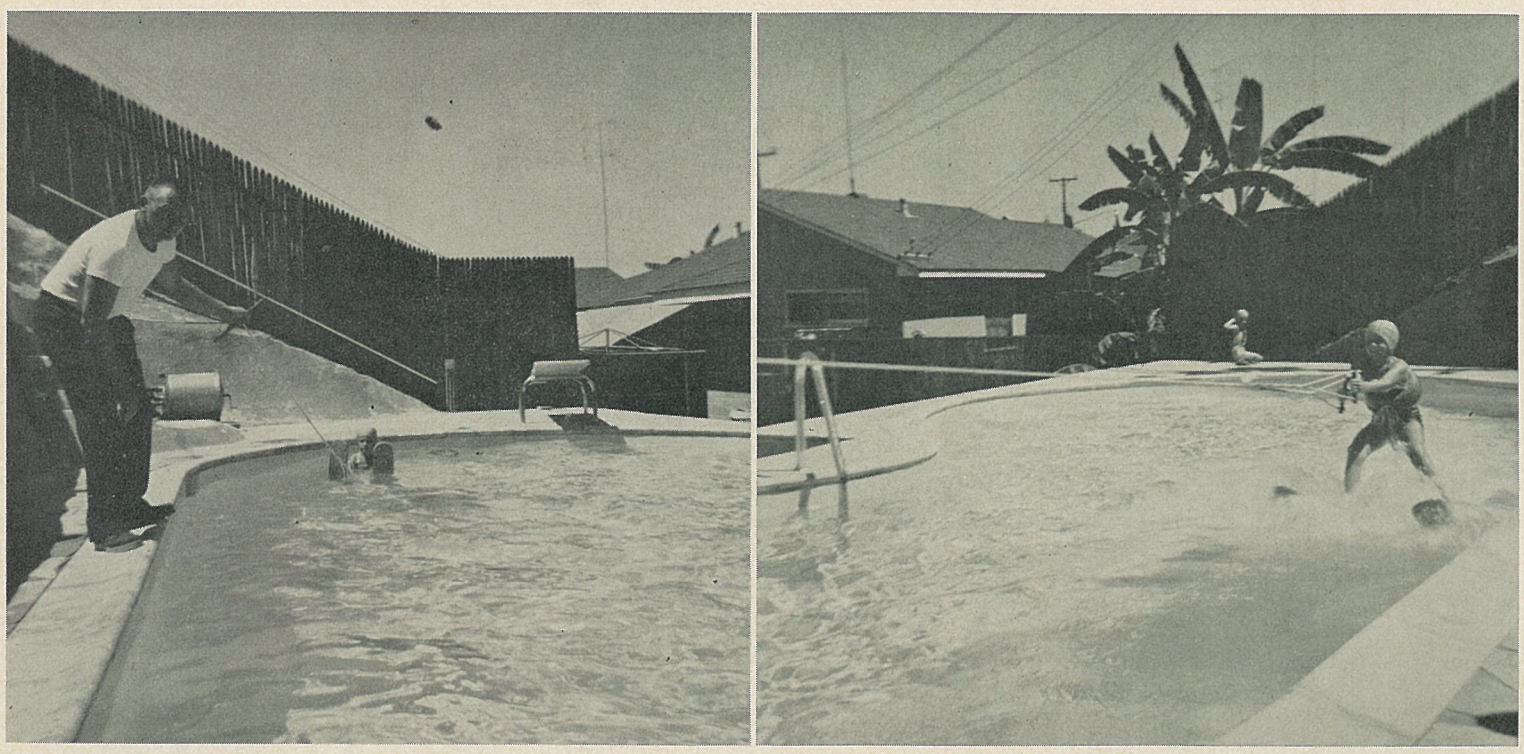
When actually assigned overseas, Eiland will receive a salary comparable to his Peruvian counterpart, possibly $100 per month. After two years with the Peace Corps he will be paid $75 for each month spent in service.

Prior to joining the Peace Corps, Eiland was a master schedules analyst for Astronautics here.

FW Design Engineer Takes Navy Duty

Robert L. Burns, GD/FW senior design engineer, recently spent 14 days active duty at Naval Air Station, Los Alamitos, Calif.

The Naval Reserve lieutenant and pilot learned latest techniques of anti-submarine warfare with his squadron, VP701, home-based at Dallas Naval Air Station.



PRACTICE RUN—At left, GD/Convair's Bob Clayton prepares to play tow boat for daughter Debra. At right, another daughter, Donna, planes surface of family swimming pool. It's fun for kids, and keeps Clayton in shape! Father discovered possibilities as training ground by accident. Mrs. Clayton faces learning by conventional method behind towing boat.

Practicing

Children Learn To Water Ski in Backyard Pool

Fantastic as it sounds, a GD/Convair father has taught his three small girls to water ski in the safety of a backyard pool!

Just this month, Bob Clayton, GD/Convair transport service engineering, bought skis for the family for the first time. Thinking it would be a good idea to teach his daughters, Diane, 10, Donna, 9, and Debra, 8, how to put on skis in the water, he put them in life jackets and tried this in his 35-ft. pool.

After they had mastered this trick, the next logical step, he reasoned, was to simulate the starting jolt. To accomplish this, he rigged a 20-foot rope with handles and commenced to run along the poolside, rope in hand.

To his surprise, when he turned his head, he saw Debra rising to the top of the water in skiing position. Encouraged by this development, Clayton spent several days teaching his girls at home. Now Clayton is sold on his method for teaching youngsters because, on their first trial at Mission Bay, the girls all performed like veterans.

"I know this method is much safer for the small fry and you can get more practice starts in less time than using a boat to pull the pupil. With a boat you're constantly turning around and retrieving the skier.

"In the pool, if the pupil falls, you just give another pull. Besides, it is cheaper and easier than driving out to a bay or lake. It's particularly helpful if you have only a few minutes to practice," said Clayton.

Unfortunately for his wife, Barbara, adults are too large to tow by hand. Clayton intends to teach Barbara to ski in the conventional manner with a boat and probably a few rough dunkings in waters of Mission Bay.

At least, the girls will be able to give their mother some helpful pointers!

American 990s On Exhibition

American Airlines will ground 990 Astrojets at six airports for public inspection this Sunday (Sept. 2) during Operation Sky Shield which closes the skies to commercial operations for five-and-a-half hours.

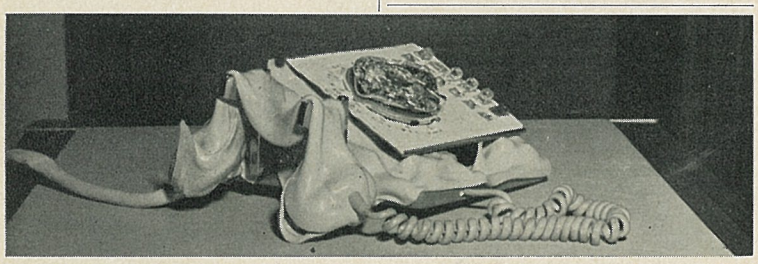
Convair 990 airliners will be seen at Cincinnati, Dallas, New York Idlewild Airport, Phoenix, Chicago, and Cleveland. Altogether, 13 of the Convair-built jet transports will be featured during AA open house at its various facilities.

This is the second year that American has invited the public to inspect its aircraft and ground facilities during the North American Air Defense exercise which grounds all planes except military aircraft.

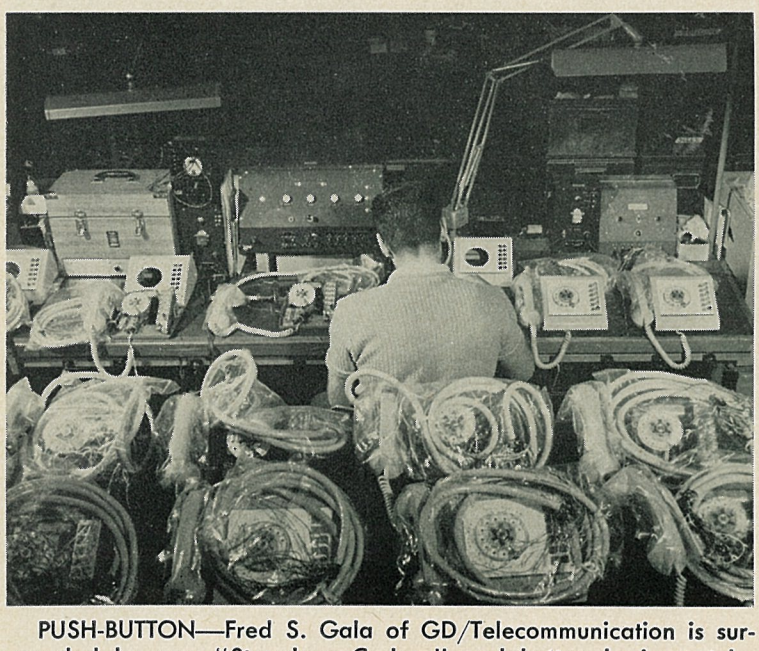
New Phone Offers Tiny 'Switchboard'

Production is at full swing on new push-button "Stromberg-Carlson" business telephones at GD/Telecommunication, Rochester, N. Y.

The ultra modern phone becomes a miniature switchboard, providing up to five lines, with intercom and "hold" on all lines. A companion phone offering up to 11 lines and all the same features will go into production in the near future.



"HOT" ITEM—This is what happened to push-button phone when control failed during test chamber drill and heat soared above 200 degrees!



PUSH-BUTTON—Fred S. Gala of GD/Telecommunication is surrounded by new "Stromberg-Carlson" push-button business telephones as they come off assembly line at Rochester, N.Y.

Veteran of Submarine Building Chosen to Head Electric Boat

J. William Jones, a veteran of 29 years of submarine building, has been named president of the Electric Boat Division of General Dynamics Corporation and a vice president of the Corporation, effective Sept. 1, Roger Lewis, president, announced last week.



J. W. Jones

He will succeed Carleton Shugg, who has been general manager and president of the division since 1952. Shugg will continue as a vice president of the Corporation, and after a brief leave, will assume increased responsibilities at headquarters in New York.

Jones has been with Electric Boat since 1933, beginning as a shipfitter's apprentice. In 1937 he became employment manager and, in 1945, director of industrial relations. In the early '50s he was first project manager for Nautilus prototype. From 1954 through 1956 he was contract and sales manager for the division, and since then has served as project manager on several nuclear submarines. His most recent assignment has been as Electric Boat's manager of field operations for nuclear power plant prototypes.

Jones is a member of the American Society of Naval Engineers. During World War II he served on the Emergency War Manpower Committee of the governor of Connecticut.

Shugg joined General Dynamics in 1951 as assistant general manager of Electric Boat, became a Corporation vice president that year, and was named general manager of the division in 1952.

He has been associated with the nation's nuclear submarine program since its inception. Under his direction the division built the first nuclear-powered submarine, the Nautilus, and has designed and built most of the prototype nuclear submarines of the United States Navy.

Adv. Products Men to Speak

Top executives of Advanced Products Department of General Dynamics Corporation will participate in two machine tool seminars conducted by American Society of Tool and Manufacturing Engineers in October.

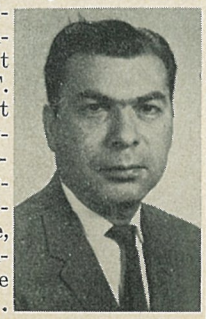
W. G. Mang, general sales manager of Advanced Products Department, headquartered at San Diego, will deliver a paper at the Oct. 1-5 meeting in Los Angeles, Calif. The title will be "High-Energy Rate Forming."

The second paper will be given by J. A. Kline, Advanced Products manager of research and development, at the ASTME meeting in Chicago later the same month. His paper is titled "Expanding the Capabilities of the Pneumatic-Mechanical Process."

Both papers will be available in published form through the Detroit offices of ASTME immediately following the seminars.

John Lombardo Will Head GD/E At San Diego

John L. Lombardo, a veteran of over 20 years in the field of communications and electronics, has been appointed general manager of General Dynamics/Electronics-San Diego, it was announced last week by C. F. Horne, president of General Dynamics/Electronics. Lombardo succeeds William Lawrence, who has resigned from the corporation. Lombardo's appointment is effective on Sept. 7.



John Lombardo

Since 1961 Lombardo has been director of electronic research and development for General Dynamics. Previously he was assistant to the vice president-engineering for electronics in the former Convair General Office.

Lombardo retired from the U. S. Air Force in 1960 as a lieutenant colonel. His last USAF assignment was Director of Advanced Systems in the Air Force Command and Control Development division. (Now called Electronic Systems Division.)

Lombardo assisted in the design of the first radar communications and ground observer system in the United States. He also assisted in the development of new electronic systems such as the Ballistic Missile Early Warning System Control facility. Lombardo was in charge of the (DEW) Distant Early Warning line through its research and development phase and integration of all air defense weapons with SAGE Air Defense System.

He has attended George Washington University, University of Maryland, Boston University, as well as numerous service schools.

Dynamics Executives Chosen For Key Roles In Planning National Engineers' Week

First general meeting to map plans for the 1963 National Engineers' Week has been set for 7:30 p.m. Sept. 11 in the City Council Chambers, Civic Center in San Diego. All engineers are invited.

As in the past, General Dynamics Corporation officials in the area have been tabbed for key roles. The week will be held beginning Feb. 22, 1963, under the national slogan: "American Engineers Build for the Future."

RAdm. J. R. Davis, CEC, USN, is general chairman. His executive committee includes E. M. Getzoff (Astro) as executive general chairman. Getzoff is also 1963 state chairman. R. H. Biron, General Dynamics vice president, is a member of this committee.

Honorary directors include J. H. Famme, president of GD/Convair; J. R. Dempsey, president of GD/Astronautics; Mortimer Rosenbaum, executive vice president of Astro; E. D. Bryant, Astro vice president-operations; W. W. Withee, Astro vice president—research and engineering; and K. J. Bossart, Astro technical director.

Astronautics personnel named to committee appointments include Ted S. Cope, sub-committee co-chairman for public relations; Charles F. McCabe, sub-committee chairman for programs and events; H. H. Boynton, sub-committee co-chairman for records and communications; and Phillip J. Swanson, sub-committee chairman for professional societies liaison.

Giessinger Among Reliability Grads

L. M. Giessinger, research engineer at GD/Astronautics, was one of a group of students successfully completing a U.C.L.A. (Department of Engineering) course called "1962 Reliability and Statistical Methods in Industry."

The course, which drew 155 students, contained instruction in industrial reliability, basic measurements and standards and non-destructive testing.

Publications Editor Attends Convention

J. D. Meacham, publications editor at GD/Convair, is in New York this week representing the division at the annual convention of American Management Association Aug. 27-29.

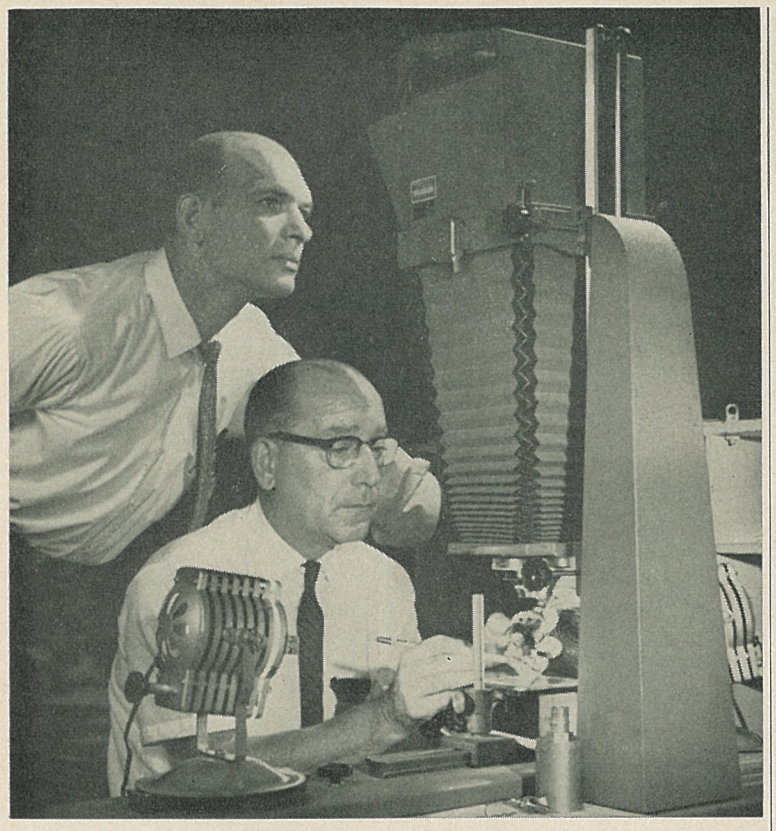
Convention chairman is Dr. Robert F. Mager, consultant with Varian Associates, Palo Alto, Calif., engineering firm. Dr. Mager, an authority in the field of programmed instruction, conducted the initial training session for GD/Convair and GD/Astronautics men at San Diego early this year.

Dynamics Facilities Face Long Weekend

General Dynamics people everywhere will enjoy a three-day weekend with the observance of Labor Day.

Next Monday (Sept. 3) will be a holiday for all divisions in the United States. Only those persons necessary to maintain essential maintenance and security functions will be required to be on the job. They will be notified in advance by supervision.

Work shifts will resume at regular times on Tuesday (Sept. 4).



IN THE LAB—Richard Roeser, GD/Astro reliability engineer, watches as Emil Minette, photographer, demonstrates photomicrographic process, helpful in reliability studies.

'62 Harmon Trophy Added To B-58's List of Laurels

Lt. Col. William R. Payne of 43rd Bomb Wing has earned the 1962 Harmon Trophy for piloting a B-58 Hustler on the historic, record-smashing flight across the Atlantic last May.

Majs. William L. Polhemus, navigator, and Raymond R. Wagener, DSO, rounded out the three-man crew that streaked from New York to Paris in slightly under 3 hours, 20 minutes, averaging 1,089 mph.

The single flight began at Carswell AFB and proceeded over Washington and New York to Paris along the same 1927 trail-blazing route of Charles A. Lindbergh, second pilot in history to win the Harmon Trophy.

A record was also established for Washington-to-Paris: slightly over 3 hours, 39 minutes, averaging 1,048 mph.

Colonel Payne, a link-trainer instructor for the U. S. Army and later pilot of B-24s in World War II, has amassed over 8,500 flying hours.

The Harmon trophies are perpetual "American Awards for outstanding international achievements in aeronautics," preferably connected with scientific experimentation and research of world-wide importance.

Winning of the Harmon Trophy by Colonel Payne marks the fifth major trophy or award won by crewmen flying in the Mach 2 Hustler. Others include:

The Bendix Trophy—Awarded a B-58 crew for flying from Los Angeles to New York and back in slightly over 4 hours, 41 minutes.

Bleriot Speed Trophy—won by B-58 crew for streaking over a closed-circuit course of 1,073 kilometers (666 statute miles) in 30 minutes, 43 seconds.

The Thompson Trophy—in recognition of record-breaking flight that established three new world speed records over a 1,000-kilometer closed course.

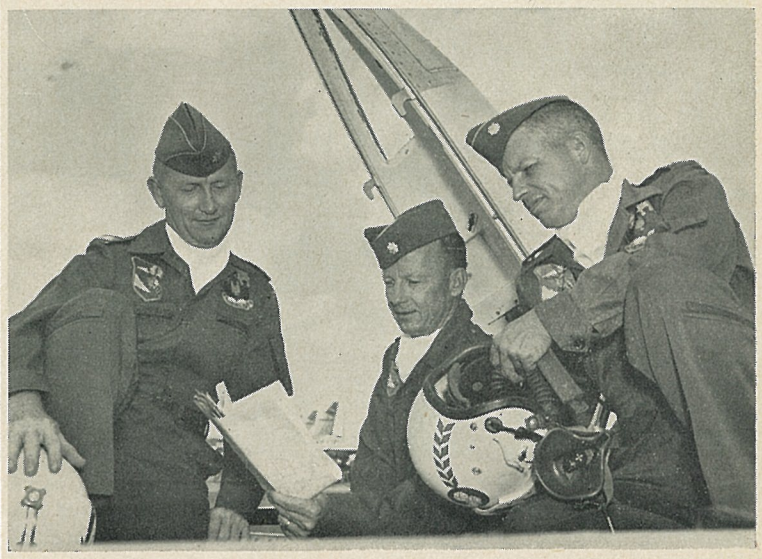
Mackay Trophy—which considered the New York-to-Paris flight the "most meritorious flight of 1961."

All told, the Hustler has amassed a total of 12 world records since it became an operational member of the U. S. Air Force Strategic Air Command.

H. C. Keith Completes Reliability Course

H. C. Keith, GD/Astro standards laboratory group engineer, Dept. 561-3, has completed a course in reliability and statistical methods at University of California, Los Angeles.

Over 155 participants in the course received instructions in various applications of statistical methods and designs, including new features of industrial reliability, basic measurements and standards, and non-destructive testing.



MEMORIES OF LINDY—Lt. Col. William R. Payne, center, winner of famed Harmon Trophy for spectacular B-58 New York-to-Paris flight, is shown with crew which helped him set record, Majors Raymond R. Wagener, left, and William L. Polhemus.

New Technique Called For in Communication

Unless progress on information handling techniques is made soon "we'll all be buried—not by Mr. Krushchev but by the weight of our own paper."

This observation was made Aug. 17 by Mortimer Rosenbaum, executive vice president of General Dynamics/Astronautics, in a luncheon speech before California Western University's Management Seminar in Communication Technology meeting in San Diego.

Attending were executives from across the nation. Melvin Day, National Aeronautics and Space Administration director of scientific technical information, was a featured dinner speaker.

Rosenbaum spoke of the specific problems of a technical industry faced with a workday dilemma of selecting needed facts from the swelling flood of information being generated by science and technology. He urged a higher order of planning to come up with a communication rationale, or framework, in which to select, store and control information needed by engineers and scientists as of the time they tackle a design problem.

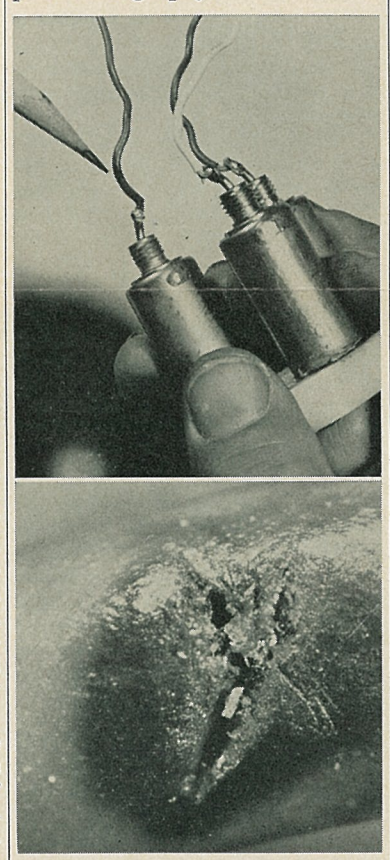
Secondly, he said, it is time for engineers and communicators alike to figure out the design of the information-handling apparatus that will be needed to support equipment at the same time the equipment itself is designed.

Citing timeliness, he said there is no point in collecting so much data for a man that he "cannot get his mind around it."

Rosenbaum suggested the use of symbols rather than words and computer data.

Cameras Reveal Clues To Causes of Failure

Microscopic imperfections, or damage to missile components now "show up big" for reliability control engineers at General Dynamics/Astronautics, thanks to photomicrography.



"BLOW-UP" — In top photo, pencil points to tiny insulation break, and in lower photo break is shown greatly magnified by camera. Technique is helpful in determining causes and eliminates bulky explanatory written reports.

This technique involves photographing subjects through microscope-type lens. With the subject greatly magnified, finished prints are used for analysis, documentation or study.

Photomicrographic equipment has been available at Astronautics for some time, although the present high level of use (30 to 50 jobs per week) stems primarily from increased utilization by reliability control laboratories.

"Prints augment many of our reliability control test reports," said L. A. Milton, reliability control group engineer. "They eliminate the need for lengthy written reports, reduce report preparation time and become a handy reference should we be called upon to repeat a test on any component or part."

A typical utilization involved a small part of a filter unit which failed at Plattsburgh AFB. Routine field examination turned up no clues as to why the part failed. It was routed to Astro's reliability control test laboratories for a hurry-up failure analysis. While laboratory technicians were able to duplicate conditions under which the part operated, they, too, were temporarily stymied as to the cause of failure.

Going further, the part was cut open for study. Examined under a microscope, the part was found to have a mere pin-point-sized break in insulation material covering a small wire. It was the cause of failure.

Photomicrography was brought into play with the break magnified many times for additional study. Finished prints went into the report which was sent to responsible parties for corrective action.

Astro's still photographic laboratory operates the photomicrographic equipment with Emil Minette as photographer.

Equipment consists of a bellows-type camera equipped with a microscope-type lens which can magnify subjects as many as 40 times. Additional magnification is possible in prints made from the standard 4x5-inch negatives exposed.

While the unit is mounted on a firm base for handy use, it can be rotated in any direction, making possible photographs of just about any type or size component. And it can be moved, if necessary, to handle larger sized objects such as an entire missile on the line.

Small flood lights are a part of the equipment which can also use larger studio illuminating facilities.

For "rush jobs" Minette inserts a Polaroid packet in the camera and comes up with a finished print within one minute.

Navy Requires Best in Aircraft And Ships, Says CINC Atlantic

The nation's newest Polaris submarine, the Alexander Hamilton, was launched at Groton, Conn., Aug. 18 as the Navy's Commander-in-Chief Atlantic warned that "less than the best in naval manpower and equipment is not acceptable for our nation's defense."

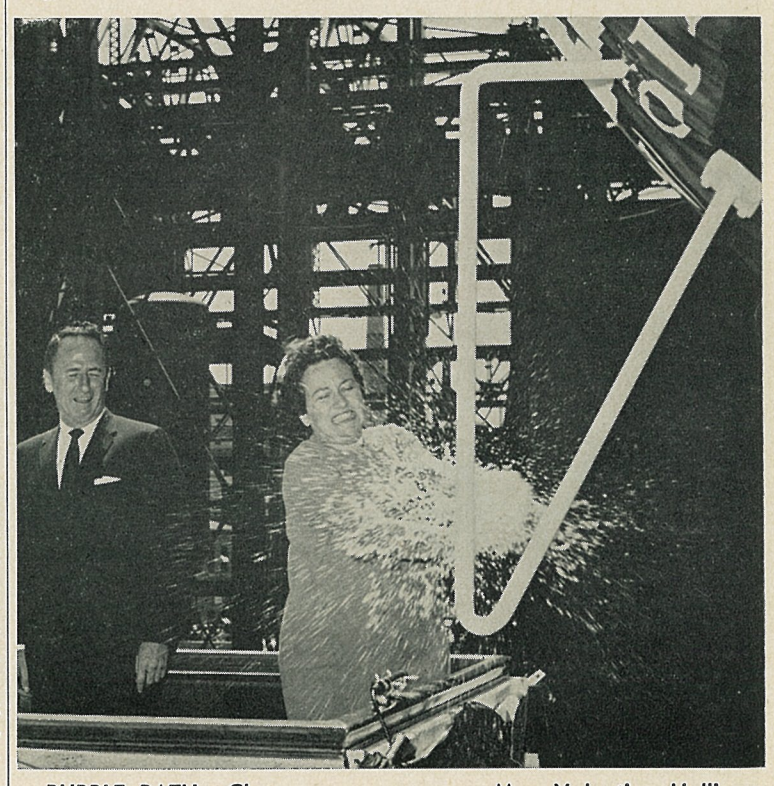
Speaking in noontime launching ceremonies at General Dynamics/Electric Boat, Adm. Robert L. Dennison said "the need for national sea power and superiority on the sea has never been more evident.

"This modern Navy of ours requires the best. The best in ships, aircraft, weapons and personnel," Adm. Dennison declared.

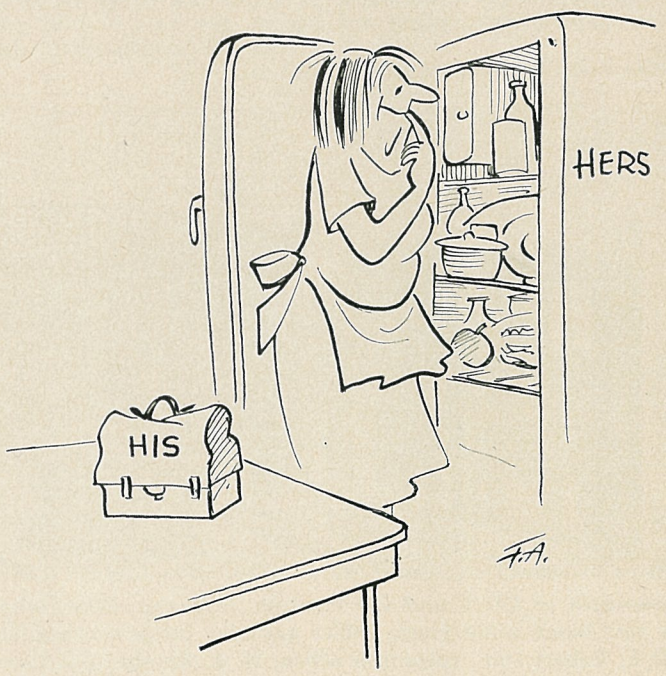
More than 10,000 were on hand as the giant submarine was christened by Mrs. Valentine Hollingsworth Jr., of Beverly, Mass., a great-great-great granddaughter of Alexander Hamilton.

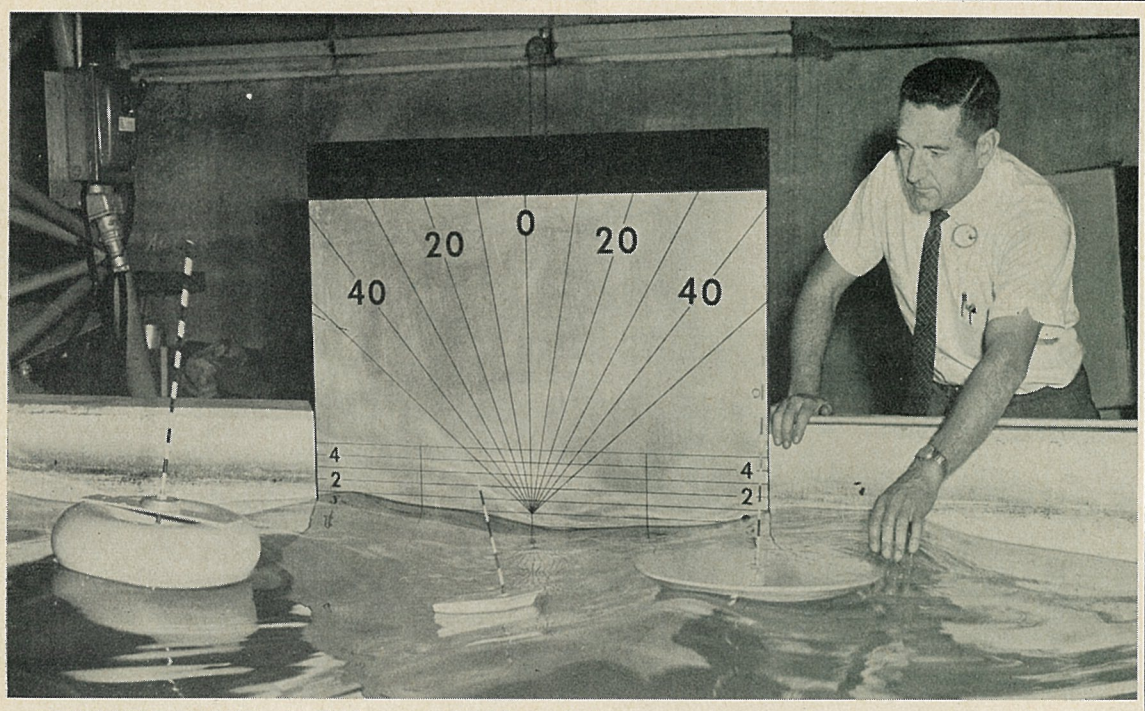
Also participating in the half-hour program were Adm. Edwin J. Rowland, Commandant of the U. S. Coast Guard; Roger Lewis, chairman and president of General Dynamics; and Carleton Shugg, president of Electric Boat.

The 7,000-ton Hamilton, designed to fire the 2,500-mile range Polaris missile, is scheduled for commissioning early next year.

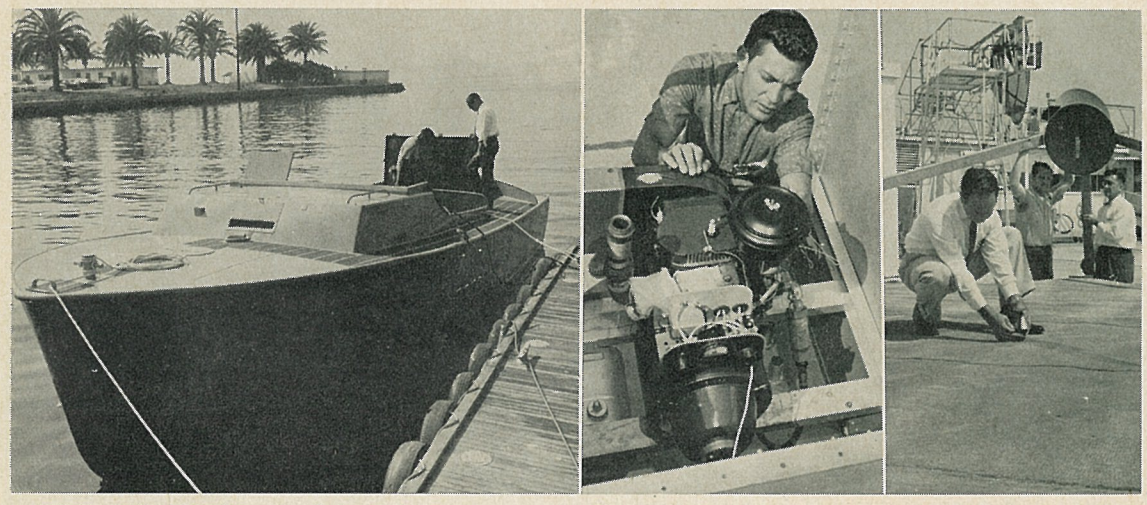


BUBBLE BATH—Champagne sprays as Mrs. Valentine Hollingsworth Jr., great-great-great granddaughter of Alexander Hamilton, christens nation's newest Polaris submarine at General Dynamics/Electric Boat. Behind her is Roger Lewis, Dynamics' president.





BOUNCING BUOYS—S. E. Sowers, GD/Convair instrumentation engineer, measures angle of mast on toy-like models of buoys under test for stability and mooring strength requirements under severe storm conditions in division's towing basin.



DEEP SEA HORSE—At left, Bob Devereux watches Ed Ingold prepare to shift ballast in LCP readied as test bed for ocean-going data transmitting power plant. In center, Larry Turchick works on engine/generator unit in experimental yard; at right, Jim Lack positions 100 to 1 scale antenna on ground screen atop Bldg. 51 as Jack Heming and Ken Morgan hoist feed antenna.

Convair Conducts Ocean Data Study

A bright orange craft will be moving out to sea within the next few days as an 18,000-lb. test bed in oceanographic studies now under way at General Dynamics/Convair.

The 36-ft. all-steel LCP (Landing Craft Personnel), topped with a high white snorkel, or antenna mast, will act as a platform for a power plant unit as one phase in the development of a remote-control broadcasting system to reveal secrets of the deep.

The contract, awarded GD/Convair by the Office of Naval Research, Washington, D. C., came as a result of an unsolicited proposal submitted by the division for the development of a system capable of transmitting data about oceanographic and weather conditions in deep waters from unmanned buoys to shore stations.

Present contract is a follow-on to an initial ocean data processing development contract completed the first part of this year. Current studies will be concluded by February of 1963, said N. W. Reed, flight test group engineer. Reed and his group of instrumentation experts are responsible for the project under overall direction of V. J. Schack. Robert Devereux is principal investigator.

"Such information as air and water temperature, water currents, acoustic measurements, will prove invaluable to oceanographers and meteorologists," explained Devereux.

"In fact, such a transmission system has untold possibilities. Its application could lead eventually to wide use in the science of the seas.

"And, with the development of a workable system, GD/Convair, as a leader in this little-explored field, will be equipped to produce both data transmission systems and buoys."

Information would be stored on tape in the instrumentation package aboard the buoys. It would be transmitted by coded signals on assigned frequencies upon command from shore stations.

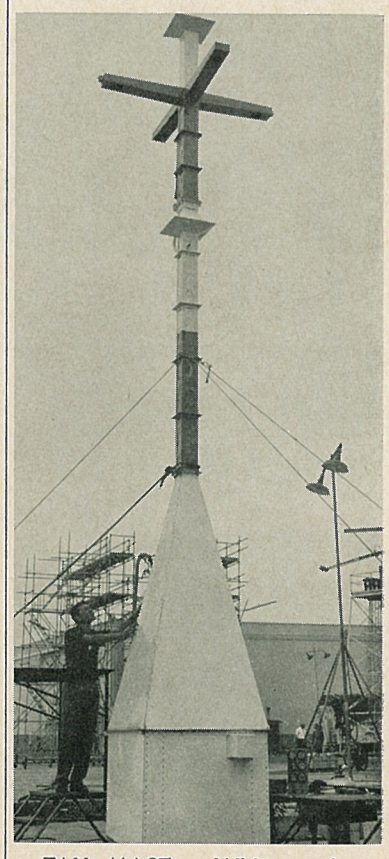
Now, flight test instrumentation engineers in the GD/Convair oceanography group are in the midst of testing buoys, antennas, power plant, instrumentation to arrive at the best possible transmission vehicle—one that could withstand 40-foot waves, 10-knot currents, and 150-knot winds while anchored in depths exceeding 20,000 feet.

Models of at least eight different types of buoys, some of GD/Convair design and modification, have been under checkout in the division towing basin. Here, all—of shapes ranging from doughnut or pancake, spar, boat-type—were towed at low speeds to check their reactions during simulated severe storm conditions to determine strength of mooring requirements. Other tests held the bobbing yellow toy-like buoys (from 1/10th to 1/40th scale) in front of a grid board while motion picture cameras ground out film capturing angle of the mast, or antenna, and wave height and slope.

Scale model antennas have been in omni-directional tests on the Bldg. 51 antenna range for amount of power, radiation patterns, and proper transmission in rolling waves.

A full-scale radio frequency link transmission test over 2,200 nautical miles of open water is planned within the next few months with GD/Convair engineers transmitting to a temporary receiving station in Hawaii.

The Navy LCP test bed, loaned to GD/Convair by ONR with the assistance of BUWEPSREP Office and renovated in experimental department, will be moored about a mile off shore from Mission Beach within the next week. It will be left there for the next three months during testing of a propane-fueled electric power plant which, it is hoped, will run without maintenance for months.



TALL MAST — White and orange snorkel tops structure (30 ft. high) to go on test craft as it takes to sea. it contains antenna, air intake for engine unit housed below.

GD/Convair flight test engineers will visit the boat two and three times a week, and telemetered data will be transmitted from boat to ground station at GD/Convair periodically.

"We received fine cooperation from both the Port of San Diego and the Navy in helping us get the boat into the water at the B St. pier and towing it to our ramp facility where instrumentation and the snorkel are being installed," said Reed.

"The Coast Guard, city police department, aquatic division of the city park and recreation department are going to keep an eye on our boat to help protect it from the curious—both seagulls and humans."

Six Divisions Send ASW Experts to Conference

More than half-a-dozen anti-submarine warfare programs of an inter-divisional nature are now being pursued by General Dynamics Corporation, it was reported at a meeting of the Anti-Submarine Warfare Committee in Rochester Aug. 6-7.

Charles F. Horne, president of GD/Electronics and GD/Pomona and chairman of the committee, presided. Representatives from six divisions and the corporate offices in Washington and New York attended. Victor Savchuk, executive secretary of the committee, arranged the program for the host division—GD/Electronics-Rochester.

Savchuk reported that the various divisions are contributing their specialized technology toward development of more effective ASW systems. The half dozen inter-divisional programs are in addition to numerous projects being conducted individually by divisions.

At ASW committee meetings GD/Convair provides information on aircraft and hydrofoils, Canadair on airplanes and ocean surveillance systems, and GD/Pomona on missiles and ASW weapon delivery systems. General Atomic is assisting with deep submergence unattended nuclear power possibilities, GD/Electric Boat with launching platforms and ASW submarines and GD/Electronics-Rochester with airborne electronics, underwater transducers and sonar devices.

The group visited SUTEC, underwater test and evaluation facility on Seneca Lake, and saw operations of the sonar test barge. George Sefcik, of GD/Electric Boat at SUTEC, discussed proposed propulsion modifications.

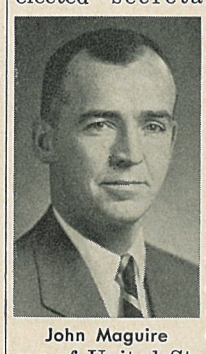
Attending the meeting besides Horne and Savchuk were: Thomas B. Pearson, General Atomic; George Schillreff, GD/Pomona; Hubert E. Brooke, GD/Convair; Dr. Herman E. Sheets and William L. Pryor, GD/Electric Boat; Robert L. Deans, Canadair; Ernest D. Lundell, Washington; and Robert J. Lutz, New York.

TOP TOASTMASTER

Cyril C. Campbell (Dept. 146-5) of General Dynamics/Astronautics recently represented 46 San Diego and Imperial County Toastmasters' Clubs at the 31st annual convention of Toastmasters International at Minneapolis.

John Maguire New Secretary Of Dynamics

John P. Maguire Jr., has been elected secretary of General Dynamics Corporation, Roger Lewis, president, announced last week.

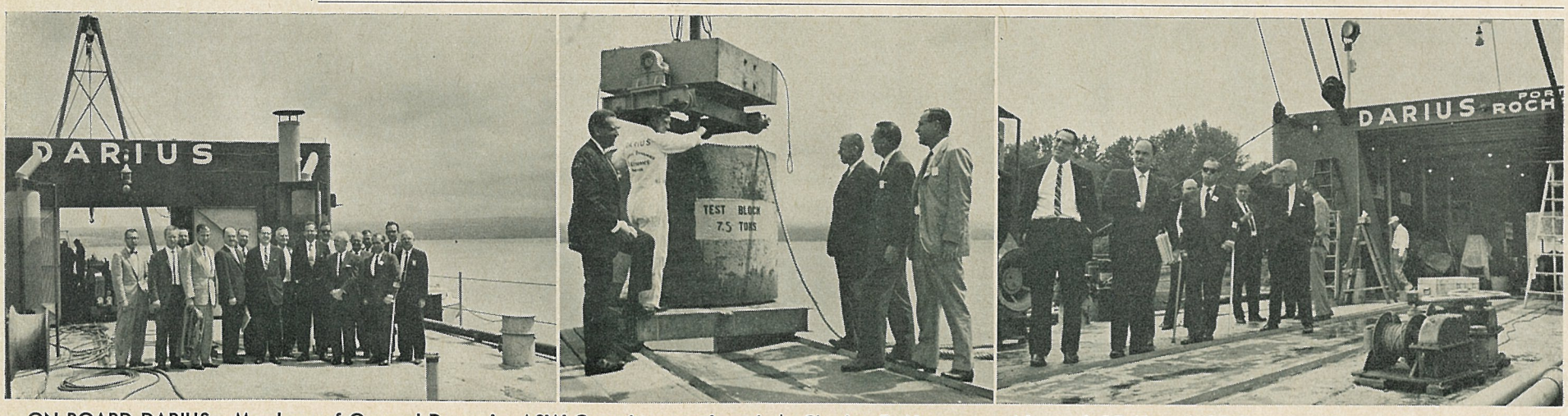


John Maguire

Maguire will assume his new duties Sept. 1, succeeding Allen D. Marshall who has been elected president and chief executive officer of United Student Aid Funds, Inc.

Maguire had been secretary and general counsel of Texas Butadiene and Chemical Corporation since 1960. During the six preceding years, he served as assistant counsel of General Dynamics.

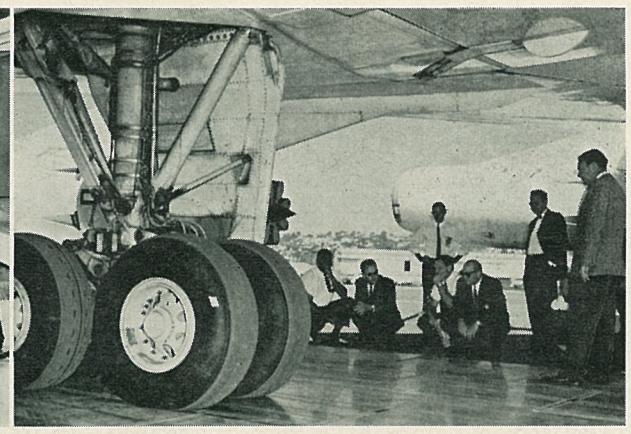
Born in New Britain, Conn., in 1917, Maguire was awarded a degree in business administration from Babson Institute in 1936, an A.B. from Princeton University in 1941 and an LL.B. from Yale Law School in 1943.



ON BOARD DARIUS—Members of General Dynamics ASW Committee conferred at Rochester, N.Y., recently and inspected GD/Electronics' research barge, Darius, on Seneca Lake. At right, watching crane demonstration, are, from left: Harry B. Miller, GD/E, George Sefcik, GD/Electric Boat, Thomas Pearson, General Atomic, Charles F. Horne, president of GD/E and GD/Pomona. In center, Billy Forbes of Darius crew guides test block while Harry Miller explains barge's capability to Donald Nichols, GD/E, Robert Lutz, corporate office, H. E. Brooke, GD/Convair. At left is group photo of committee.







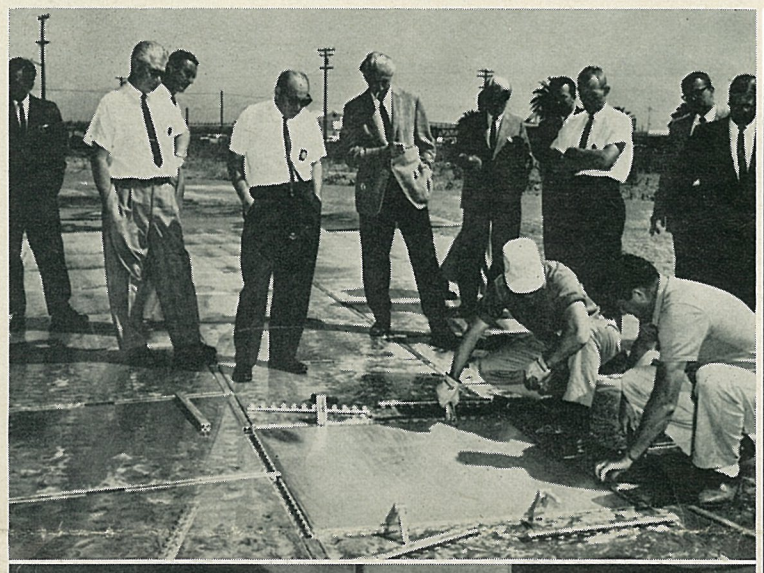
TOUGH MATS—During gueling tests at GD/Convair, SATS mats specimens are shot at, trampled by heavy trucks, planes. At left, Bob Pearce, SATS mats project engineer, takes close look at mat used as target for Marine Corps riflemen during ballistic tests. In center, C. L. Jackson, program manager, steps out briskly to see how mats stood up under huge crash truck. (Observing tests, besides division executives, are engineers vitally concerned with program: Harry Dvorak, group engineer; G. L. Pankey, design specialist; Phil Kissel, test engineer; Bill Service, design engineer.) At right, GD/Convair group surrounds President J. H. Famme as they rivet attention on heavy (160,000-lb.) Convair 880 rolling over locked mats. Mats now are undergoing NAMC qualification tests.

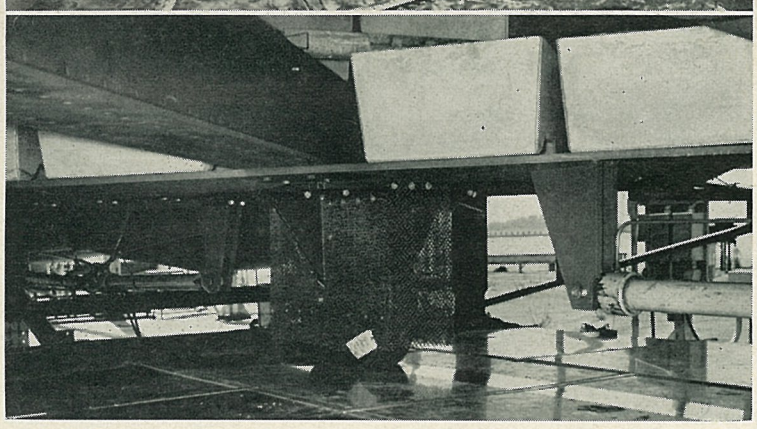
GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 18 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 29, 1962





LOADED—Lower shot shows unique test rig, one of two in country, at GD/Convair structures lab facility putting 20 tons pressure on GD/Convair-designed SATS mats. In upper photo Al Cox and Homer Killgore, both Dept. 171, show how fast separate mats can be taken out and replaced (5 minutes per mat) in landing field set-up. Watching demonstration are (from left) M. E. Kruger, F. H. McLaughlin, B. R. Hisaw, J. H. Famme, Bill Service, Paul Jennings and Tom Crowley, both Camloc Fastner Corp. reps, R. M. Hatcher, Jack Kenna, W. R. Bruce.

Test Landing Mats Get Rigorous Treatment

Test landing mats fabricated at General Dynamics/Convair for Marine Corps jet fighter portable landing fields are now at Vicksburg (Miss.), Research and Development Center undergoing evaluation.

Go-ahead for production of 27,000 of the aluminum mats for the first landing field pends certification by Naval Air Material Center following results of the current series of tests, said C. L. Jackson, GD/Convair program manager of the SATS (Small Airfield for Tactical Support) mats project.

Before they left the San Diego Plant, mats were put through the most grueling tests possible, taking double the amount of punishment required for NAMC certification.

"Results were most encouraging," reported Jackson. "Our mats proved that they can stand up under the heaviest moving loads without damage.

"Analyses showed that they not only are strong and resilient in loose, sandy soil, but can be laid faster on an overall field basis than any other type under consideration.

"Individual mats can be removed and replaced in a matter of minutes—an important factor if a section of the field were damaged during a crash landing while other planes waited in the air to land."

At the San Diego division the first mats stood up under

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Summer's End Dance Tickets Go on Sale

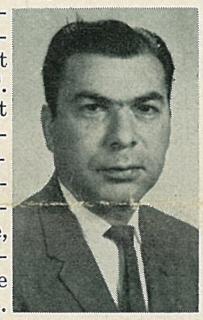
Tickets will go on sale this week for the annual end-of-summer dance for GD/Convair Management Club members and guests.

The gala affair has been set for Saturday, Sept. 15, at Del Webb's new OceanHouse on Pacific Hwy. with tickets at $3 a couple.

Sponsoring the dance is quality control and production flight with L. G. Lawson heading arrangements.

John Lombardo Will Head GD/E At San Diego

John L. Lombardo, a veteran of over 20 years in the field of communications and electronics, has been appointed general manager of General Dynamics/Electronics-San Diego, it was announced last week by C. F. Horne, president of General Dynamics/Electronics. Lombardo succeeds William Lawrence, who has resigned from the corporation. Lombardo's appointment is effective on Sept. 7.



John Lombardo

Since 1961 Lombardo has been director of electronic research and development for General Dynamics. Previously he was assistant to the vice president-engineering for electronics in the former Convair General Office.

Lombardo retired from the U. S. Air Force in 1960 as a lieutenant colonel. His last USAF assignment was Director of Advanced Systems in the Air Force Command and Control Development division. (Now called Electronic Systems Division).

Lombardo assisted in the design of the first radar communications and ground observer system in the United States. He also assisted in the development of new electronic systems such as the Ballistic Missile Early Warning System Control facility. Lombardo was in charge of the (DEW) Distant Early Warning line through its research and development phase and integration of all air defense weapons with SAGE Air Defense System.

He has attended George Washington University, University of Maryland, Boston University, as well as numerous service schools.

IN-PLANT CLASSES REGISTRATION OPENS

Registration is open now for in-plant classes starting Sept. 11 for GD/Convair and GD/Electronics people.

Six of the nine courses, arranged by educational services in cooperation with San Diego City College, carry full college credit. All but one will be instructed by GD/Convair and GD/Electronics men. F. M. Linderman of Ryan Aeronautical Co. will teach one of the basic technical writing courses.

Enrollment may be made by calling Wayne Turner, coordinator, ext. 491, Plant 1.

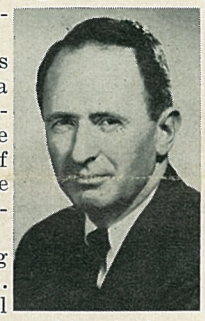
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Lewis to Speak To Mgt. Clubs

Roger Lewis, president and chairman of General Dynamics Corporation, will speak at a specially-arranged General Dynamics/Convair Management Club meeting Tuesday, Sept. 11.

His address will follow a 6:30 p.m. banquet in the Fleet Room of the OceanHouse on Pacific Highway.

The following evening, Sept. 12, Lewis will appear before the General Dynamics/Astronautics Management Club at the same location.



Roger Lewis

These two dates mark the first times that Management Clubs in the San Diego area have had an opportunity to hear the Corporation president since he assumed the top administrative post in February of this year.

Before that he was executive vice president of Pan American World Airways. From 1947 until 1950 he was with Canadair Limited, serving as vice president for sales before going to Pan American.

Lewis' appearance before the GD/Convair Management Club is limited to members and eligible nonmembers only. Company identification cards must be presented at the door. Tickets will go on sale, at $2 each, by the end of this week at regular outlets.

A 5:30 p.m. social hour will precede the dinner.

GD/Convair to Install Test Cameras on F-102s

General Dynamics/Convair has been awarded a $92,000 Air Force contract to design and install photographic and test instrumentation in two Convair F-102A jet interceptors and prepare two other kits for use in the field.

The photo equipment — motion picture cameras that record the pilot's fire control system scope presentation and dial settings (airspeed, altitude, heading) in the missile bay—will aid the Air Force in development of the 412L weapons control system.

An overseas version of the Air Force's semi-automatic ground environment system, the 412L will work in conjunction with the jet interceptor's electronic guidance and fire control system and direct the plane on its target intercept mission.

By comparing the film record of what the plane was commanded to do with what it actually did during the test, engineers will be better able to evaluate effectiveness of the new 412L system.

The photo-test kits are being installed in two F-102As at the GD/Convair plant in San Diego. Two other kits will be sent overseas where their installation will be supervised by a company engineer.

The photo kits are designed so that they can be removed in 15 minutes, restoring the aircraft to full tactical status. The contract was awarded and will be managed by the Electronic Systems Division of the Air Force Systems Command, Laurence G. Hanscom Field, Bedford, Mass.

Training in 'Space Age Reliability' Offered to All Key Employees

As General Dynamics divisions face the challenge of reliability in space age production, special training courses have been inaugurated at GD/Convair, pointing up the importance of the more and more rigorous standards demanded by governmental and commercial customers.

"Space Age Reliability" training will be given everyone at GD/Convair and GD/Electronics who are connected with any of the divisions' production programs upon request, H. W. Rubottom, chief of educational services, said.

By the end of this week 82 supervisors from GD/Convair shop and inspection functions will have concluded initial training. Eight classes of three one-hour sessions have been under way since mid-August.

"Basic instruction will be fol-

(Continued on Page 2)

GD/Convair to Begin 8th Value Seminar

Eighth value control seminar at General Dynamics/Convair will start Sept. 10, announced H. P. Williams, value control manager.

Present planning is for 40 men to form eight teams in the cost vs. value training.

Log Book Entries



Frank A. Boyle, GD / Convair Dept. 401-7, received 25-year service emblem early this month.

Service Emblems

CONVAIR

Service emblems due during the period Aug. 16 through Aug. 31.

Twenty-five-year: Dept. 140, L. C. Hare.

Twenty-year: Dept. 3-1, J. H. Cooper; Dept. 6-300, W. D. Mitchell; Dept. 16-1, Betty A. Valin; Dept. 20-1, H. M. Woodard; Dept. 25-5, H. M. Holst; Dept. 31, H. M. Owens; Dept. 123, O. D. Phillips; Dept. 133, A. R. Mooney Jr.; Dept. 140, James Caldwell, J. T. Halfacre; Dept. 171, F. W. Anderson, Bernard Jankowski; Dept. 401-1, Opal E. Hayes.

Fifteen-year: Dept. 16-4, Gladys B. Isom; Dept. 25-5, F. E. Kempner; Dept. 44-3, Edna P. Hise; Dept. 102, Lila K. Demos, J. D. Robinson; Dept. 133, F. A. Dunivan; Dept. 140, R. A. Berman; Dept. 201, Bruna Selvaggi; Dept. 204, Doroteo Silva; Dept. 218, B. A. Robinson; Dept. 401, G. M. Cesena, Virginia C. Morrison, A. B. Peters; Dept. 813-0 (Corp.), Bessie P. Wood.

Ten-year: Dept. 6, F. E. Buckles, M. L. Clayton, O. B. Harder, A. J. Johnson, J. W. Liljestrom; Dept. 16-1, S. H. Kent; Dept. 20-0, Ethel J. Blatnik; Dept. 34-1, J. W. Grimes; Dept. 215, J. A. Beaulieu; Dept. 401-7, J. R. Ahrens.

GD/ELECTRONICS

Ten-year: Dept. 6, J. C. Henry, N. P. Sinner.

Rider-Driver

RIDES WANTED—7:30 a.m. to 4:30 p.m. from Encanto (Skyline Hills) to Plant 1. Fred Buffington, home phone, 262-2758, or plant ext. 2328, or will share in car pool.

7 a.m. to 3:30 p.m. from El Cajon to Plant 1, W. D. Oden, home phone, HI-2-1223.

7 a.m. - 3:30 p.m., from 987 Jamacha Road, El Cajon to Plant 2. Art Haas, home phone, 444-2911 or Plant 2 ext. 494.

Retirements

CONVAIR

HARRINGTON—Lowell R., Dept. 48. Seniority date July 2, 1956, retirement effective Aug. 19, 1962.

ROGERS—Howard J., Dept. 31. Seniority date Oct. 12, 1951, retirement effective Aug. 10, 1962.

ROGERS—Louise K., Dept. 48. Seniority date Jan. 9, 1952, retirement effective Aug. 10, 1962.

SYMONS—Earl S., Dept. 21. Seniority date Jan. 17, 1952, retirement effective Aug. 2, 1962.

WHITTY — Dorothy C., Dept. 34-1. Seniority date March 29, 1951, retirement effective Aug. 14, 1962.

Deaths

CONVAIR

BEAULIEU—Joseph A., Dept. 215. Died Aug. 14. Survived by wife, Pauline.

CHAK—Peter, Dept. 44-3. Survivors include nephew, Richard Young.

GALINDO—E. A., Dept. 218. Died Aug. 20. Survived by wife, Mabel, a son, four sisters, two brothers, one grandchild.

REISER—Arthur J., Dept. 11. Died Aug. 17. Survived by wife, Norma, and two daughters.

Births

SAN DIEGO

BAKER—Son, Jeffrey R., 9 lbs., 4½ oz., born July 24 to Mr. and Mrs. R. C. Baker, GD/E, Dept. 5(416).

LOWE—Daughter, Jennifer Katherine, 7 lbs., 4 oz., born Aug. 19 to Mr. and Mrs. Warner Lowe, Dept. 6-900.

PARSONS—Daughter, Karen Michelle, 6 lbs., 1 oz. born July 23 to Mr. and Mrs. C. V. Parsons, Astro Dept. 401. Mother, Mickey Parsons, on leave from GD procurement office.

Personals

CONVAIR

I would like to express my appreciation for the thoughtfulness of supervisors and fellow employees of the tooling departments and the educational services section of GD/Convair during my recent hospitalization.

Francis L. Dohm, Dept. 401-4

* * *

We would like to express our grateful appreciation to Convair friends of Leslie Bickel for the beautiful flowers, cards of sympathy, and tokens of friendship.

Mrs. Leslie Bickel and family.

Promotions

CONVAIR

Promotions to or within supervision effective Aug. 13.

Dept. 401-5, Tool Manufacturing: To assistant foreman, M. J. Becker.

GD/ELECTRONICS

Dept. 41-00, Material Control: To manager of material operations, T. E. Morris.

Lost & Found

LOST — Gold miniature Navy wings pin, inscribed Peggy. Sentimental value. M. F. Cooke, Dept. 27-6, ext. 1446.

English Course To Begin Soon

A "self-help" English course is available to all GD/Convair and GD/Electronics people at reduced price through arrangements with the GD/Astro Management Club.

Anyone may sign for "Practical English and Command of Words" before Sept. 14 through Don Tibbs, Bldg. 18, Plant 1, exts. 495 and 1591.

Complete cost of the 48-unit course, which extends over a year's time, is $18. It is provided by the Better Speech Institute of Chicago, and according to those who took the course last year under sponsorship of GD/Convair Management Club, it is an effective means of learning to use clear, clean-cut language.

No class attendance is required, nor written assignments. Applicants fill in request forms and receive a binder and first 12 lessons, together with a property pass, at time of signing. Additional lessons will begin arriving at home addresses in November. Students also will be billed directly through the institute.

In charge of the program is John White, educational coordinator of the GD/Astro Management Club, ext. 1473 at Astro.

Training Offered To Key Employees

(Continued from Page 1)

lowed with monthly refreshers to keep reliability (with a capital R) uppermost in the minds of everyone," said Rubottom.

The extra effort that insures unquestionable reliability was stressed during lecture sessions, with emphasis on need of continual self-improvement and training to keep pace with industrial advances.

In heartily approving the reliability training program, W. J. Martin, director of reliability, said, "We must all develop a clear understanding of the direct effect an individual error can have on the success of any program!"

Classes will be held on a continuous basis until everyone has had an opportunity for some type of training to conform to highest reliability standards, repeated Rubottom, who stressed the fact that every person involved in a program — engineer, assembler, inspector, dispatcher, trainer — must be closely linked in the drive for top reliability.

Interested supervision may contact W. F. Weidenfeller, educational services coordinator, at ext. 491, Plant 1, for details of coming classes.

IN-PLANT CLASSES REGISTRATION OPENS

(Continued from Page 1)

Courses, time and days of class meetings, location, instructors are:

Basic Electricity, Mondays, 4:30-7:30 p.m., Room 38 (CRA Clubhouse), Don Munger, instructor.

Basic Electronics, Theory and Components, Tuesdays and Thursdays, 4:30-7:30 p.m., Room 38, E. B. Milner.

Mathematics and Basic Slide Rule, Wednesdays, 4:30-7:30 p.m., Room 38, Wesley Young.

Technical Writing I, Mondays, 12:30-3:30 p.m., Bldg. 19, Classroom 3, Allen Walden.

Technical Writing I, Mondays, 4:30-7:30 p.m., Bldg. 19, Classroom 3, F. M. Linderman.

Technical Writing III, Wednesdays, 4:30-7:30 p.m., Bldg. 19, Classroom 3, Louie Henderson.

Technical Writing III, Tuesdays, 12:30-3:30 p.m., Bldg. 19, Classroom 3, Henderson.

Technical Writing IV (Editing), Thursdays, 4:30-7:30 p.m., Bldg. 19, Classroom 3, Henderson.

Electrical-Electronics Blueprint Reading, Mondays, 4:30-7:30 p.m., Bldg. 19, Classroom 4, Milner.

★ ★ ★

GD/Convair and GD/Electronics people in San Diego may sign next month for tuition-refund Business Systems Management courses offered this fall in cooperation with California Western University.

Courses will be scheduled evenings at GD locations and at Cal-Western's Point Loma campus, said H. W. Rubottom, GD/Convair chief of educational services.

They include Business Report Writing, Introduction to Electronic Data Processing, Systems and Processes Analysis, Training in Business and Industry, Systems and Processes Seminar, Application of Electronic Data Processing to Management Systems. All of these will be held at GD/Convair and GD/Astro.

On-campus courses are Fundamentals of Public Speaking, Business Statistics, Organization and Management of Business Enterprise, Product Planning and Control, Managerial Accounting, Advanced Product Planning and Control.

General Dynamics students enrolling in the program may register Sept. 13-14 at the University. Tuition fees can be paid on a deferred payment plan.

Additional information is available from Will Weidenfeller of educational services, Plant 1, ext. 491 or 2568.



"GO, LITTLE JOE"—Gerry Cox, Dept. 101 foreman (second from left), eagerly accepts first shop order releases for start of Little Joe II parts fabrication from R. L. Ingraham, Dept. 192 foreman (left). C. S. Strand and N. R. Keough, in charge of Little Joe manufacturing, put the heat on Cox for first parts!

Test Landing Mats Get Rigorous Treatment

(Continued from Page 1)

20 tons of weight, equivalent to two 10-ton gravel trucks fully loaded on one wheel, at the special test rig set up at the structures laboratories facility.

The test set-up simulates as nearly as possible the similar facility at Vicksburg, only one of its type in the country, where the mats will be passed over 1,600 times with 39,000-lb. loads, and 3,200 times with 27,000 lbs. for qualification. The 20 tons represent the heaviest load on one wheel of a remote-controlled vehicle for simulated aircraft load tests.

At GD/Convair's test site the same amount of load is applied by an aircraft wheel attached to a load bar and automatically cycled by hydraulic power.

"The mats survived 3,000 cycles at the 20-ton weight, nearly twice the number scheduled at that weight at the Vicksburg test site!" Jackson said.

Other checkouts saw the mats laid under the most realistic conditions possible—on top of 18 inches of loose, sandy soil—as runways for the company's heaviest equipment and planes.

"We were most gratified to find that there was absolutely no creep or ripple (bow wave) characteristics during high speed runs of a 48,000-lb. fire truck or roll-over of a Convair 880, weighing about 160,000 lbs."

Ballistic tests at Camp Matthews Marine Corps Firing Range saw the mats set up as targets for various types of ammunition to see if they will serve as protective shields for men laying the fields under attack. Further tests will establish their resistance to strafing.

Engineers at GD/Convair now are working on test specimens for weight reduction of the wooden core. These mats also will be checked out in the GD/Convair-built 20-ton test rig before production starts on the automatic line this fall.

The 27,000 mats rolling off the line as the first landing field also will be tested—this time under actual Marine Corps field conditions. Actual aircraft landings and takeoffs will be made.

The 4x4-ft. mats will be moved, lifted, arranged in trucks for best handling methods. At the same time different types of handling tools, including some of GD/Convair design, will be checked out for most efficient kind.

In conclusion, Jackson expressed his sincere appreciation to all departments within the division "who have supported this vital development program with efforts far beyond normal demands."

McSparron, Western Honored For Cost-Cutting Proposals

Two GD/Convair supervisors were awarded MacSave-it honors for the last three months for their suggestions to reduce divisional costs.

J. A. McSparron, Dept. 44 supervisor, won the GD/Convair Management Club award two months in a row for the first time since the monthly trophy has gone to top cost reduction suggesters.

CIPs, submitted by McSparron, eliminated operations in Depts. 192 and 44 for an overall saving of $17,593. He was presented May and June trophies at the August meeting.

His suggestion for expediting minimum shortage tag processing saved $5,339 for the division in elimination of second-shift operation and gave him his first MacSave-it honor, the May award.

His second, good for the June trophy, saves $12,254 by discontinuing the parts listing function within the shop order group.

Owen C. Western, assistant foreman in Dept. 171, was awarded the July MacSave-it for a CIP reclaiming dehydrator bags used in engine preservation by rejuvenating them in the Dept. 119 furnace. The saving in cost of supplies amounts to $2,929.

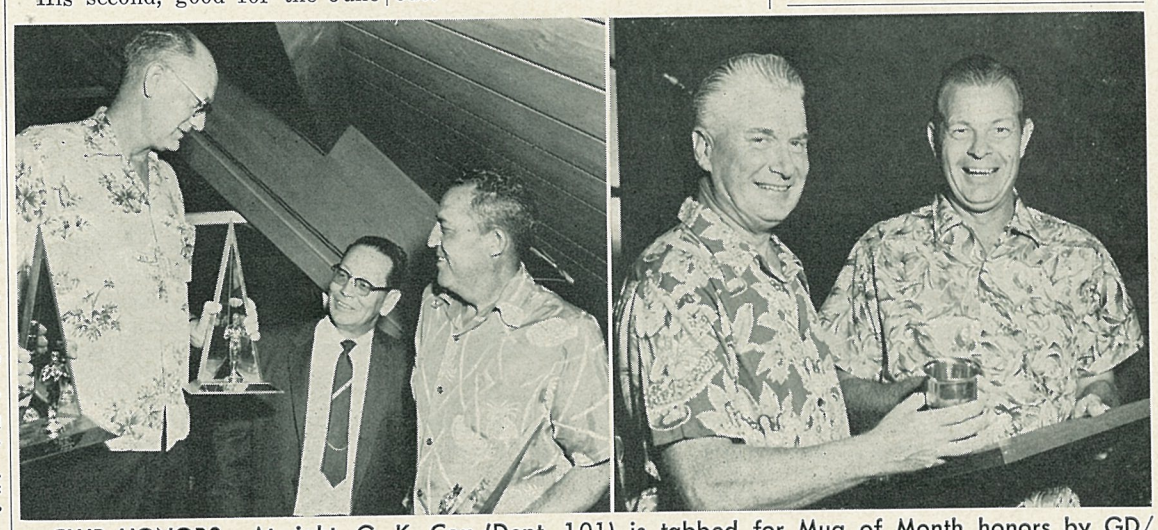
In making the three presentations at the Management Club meeting, R. D. Marks, chief of methods, pointed out that suggestions of both men carried out objectives of the division's Resources Economics cost reduction drive—to save material and manpower.

"There are many more such ideas around the factory," Marks stressed. "It's up to all, especially supervision, to ferret them out!"

GD/Convair Daughter In Dancing Troupe

Lois Rollins, daughter of Isaac Rollins of GD/Convair, is a member of the Katherine Dunham Dance Troupe now performing in the Huntington Hartford Theater in Hollywood.

Mr. and Mrs. Rollins were on hand at opening night (Aug. 20) of the musical revue, "Bamboche!," to wish their dancing daughter luck.



CLUB HONORS—At right, G. K. Cox (Dept. 101) is tabbed for Mug of Month honors by GD/Convair Management Club, with F. H. McLaughlin making presentation. In photo at left J. A. McSparron (Dept. 44) collects May and June MacSave-it trophies. At right is O. C. Western (Dept. 171), July winner. Center is R. D. Marks, who made presentations.

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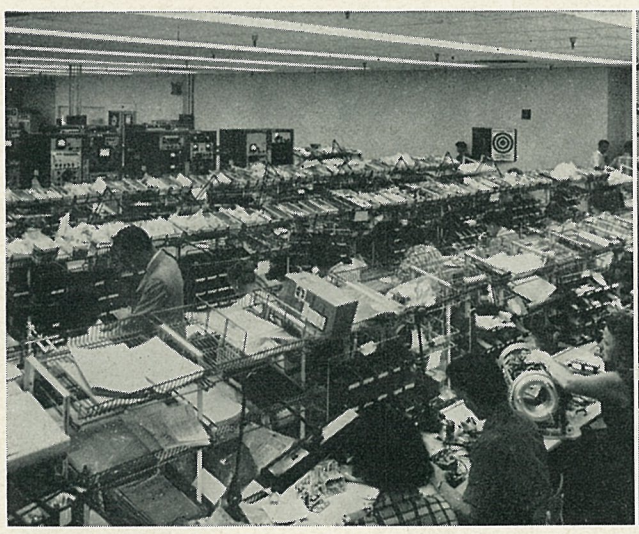
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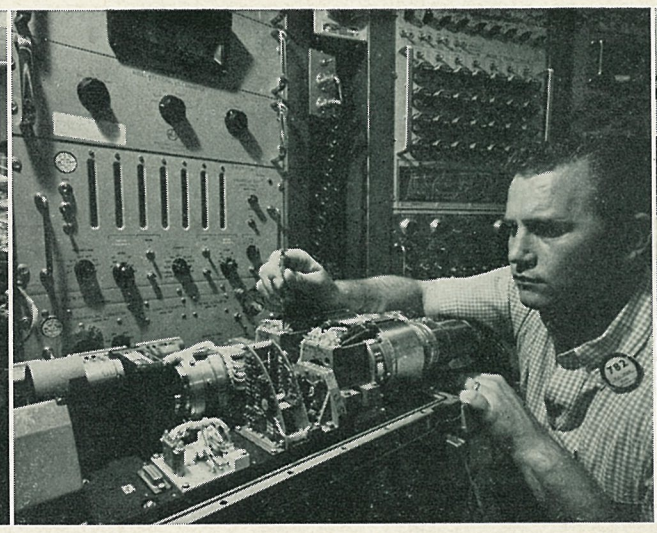
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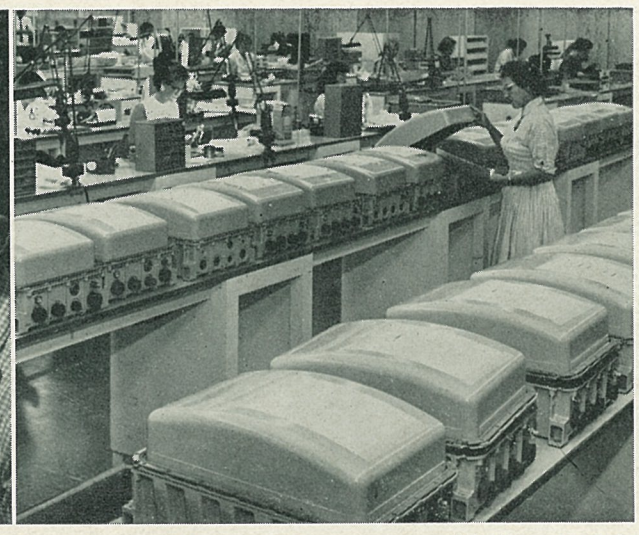
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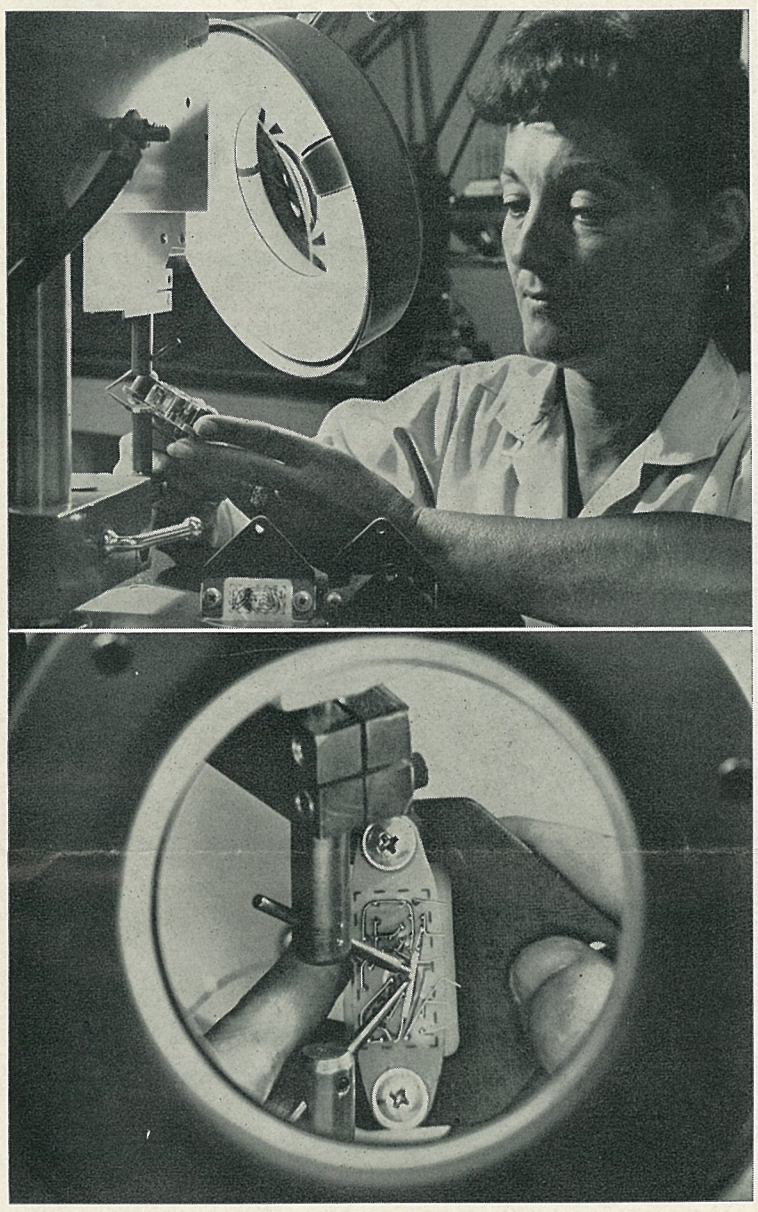
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BUILT-IN RELIABILITY—GD/Astro personnel at San Diego, whose work requires vast precision and skill, support electronic products program. Some idea of complexity of their products is indicated in center above as H. O. Stone adjusts telemetry package. At left, Russ Oexner offers assistance on assembly line. At right are banks of autopilot programmers being checked by Vickie Marine. Among products produced in program is AZUSA missile tracking system.



DRAMATIC—Carmen Thompson works with deft fingers, guiding tiny module under welding tips. Finished product has great strength, high reliability. Below is what she sees through magnifying lens of ring-light.

AZUSA Tracker Failure Free During Long Period of Use

This month, General Dynamics/Astronautics AZUSA Mark II automatic missile tracking system marked its second anniversary of operation at Cape Canaveral, maintaining a failure-free record over nearly 200 tests!

Produced at GD/Astro by electronic products (departments in the 010-030 series) under executive direction of S. L. Ackerman, vice president and program director, AZUSA is one of a number of precision, high-quality electronic products now operational or under development. Lew Emmerich is assistant program director.

AZUSA is used for ground trajectory measurement with an airborne transponder (also GD/Astro-built). Signal exchange between the two permits ground equipment to predict impact point at all times during flight. The advanced system can also be used for space vehicle command, telemetry data transmission, space-probe tracking, and space communication.

Since installation of AZUSA Mark I at Cape Canaveral in 1953, over 400 missiles have carried AZUSA equipment.

Mark II, with improved accuracy and reliability and the first large ground tracking system making extensive use of solid-state (transistor) design instead of vacuum tubes, replaced Mark I at Cape Canaveral in 1960. The latter was then modified and transported to Grand Bahama Island where it continues service, primarily in Polaris and Minuteman programs.

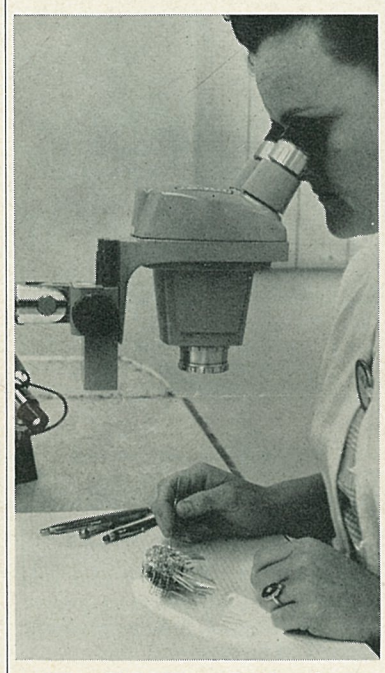
Together with AZUSA transponders, GD/Astro's electronic organization now pours a steady stream of varied equipment from its production facilities in Bldg. 33, with some production carried on in Bldg. 5.

Outgrowth of GD/Astro's 15-plus years of transponder development and production is a recently-announced contract with Air Force Cambridge Research Laboratories for production of a prototype lunar transponder (**General Dynamics NEWS**, Aug. 1.)

The device, weighing less than 10 pounds, will transmit to earth en route to the moon; then continue transmission after surviving lunar impact at about 3,000 times the force of its own "earth weight."

(Such miniaturization is an every-day task for GD/Astro electronic specialists: Astro-built airborne transponders have "reduced" from an original weight of about 100 pounds to their present trim 20-pound size.)

Stemming from highly successful AZUSA is GLOTRAC, a high-accuracy integrated global network for space-vehicle tracking now being designed and developed for Air Force Missile Test Center. Assistant program director for this project is T. H. Scholder.



UP CLOSER — Doris Jensen gives welded module close inspection under great magnification.

For nearly two years, GD/Astro has been producing scientific passenger pods—instrumented packages which permit Atlas and other launch vehicles to supplement their primary missions by carrying other experiments "piggy-back." Curt Bates is assistant program director.

ARENTS, supervised by Assistant Program Director H. M. Ikerd, is a satellite to evaluate the environment of high space—to 20,000 miles. One model of the satellite is now undergoing test in GD/Astro's vast environmental test chamber.

Ackerman cited two principal reasons for GD/Astronautics success in the space field.

"As much as any company in the business, we have an intimate, working knowledge of precision tracking equipment," he said.

"In addition, because of our work with Atlas as a pioneering ballistic weapon and space launch vehicle, we have a thorough understanding of ballistic and orbital flight trajectories and the associated tracking problems."

In fabrication, GD/Astro is one of the first companies to apply the high-density "welded module" technique of electronic manufacture on a production basis, Ackerman explained.

First used on autopilot systems, the technique which involves making electrical connections by welding instead of conventional solder, is now being used in GLOTRAC manufacture. It results in extremely compact construction.

SAC Railway Trains Operate As Mobile Bombing Scorers

Dormitories on rails have joined the inventory of Strategic Air Command.

An eight-car train serving the 15th Air Force (composed of bases in western U. S.) has been provided for the 65-man crew which operates SAC's mobile radar bomb scoring (RBS) trains.

There are three of these trains in operation in the U. S. to provide B-58, B-52 and B-47 jet bomber crews with a wide range of unfamiliar targets and routes.

Second and Eighth Air Force trains will receive identical equipment later in 1962.

The eight-car train is self-sustaining, with four cars divided into compartments to allow comfort and privacy for men during off-duty hours. Each car provides accommodations for 18.

Other features include electric washers and dryers, washroom facilities, and a utility car which offers space for a base exchange and movie projection area. The dining car has facilities to seat 40 men at one time.

GD/Astro Son and Former Employee Completing Peace Corps Training

LINCOLN AFB—Michael Eiland, a former GD/Astronautics employee here and son of Astro's Gordon Eiland, traffic and stores foreman here, is now in the final phase of training for Peace Corps service.

He recently returned from four weeks of training for Peace Corps duty in Puerto Rico. Final training is at Putney, Vt. While Eiland is not sure of his initial assignment overseas, he hopes to go to Peru.

During Puerto Rico training he and fellow students spent 12 hours per day in classes on nutrition, Spanish, Latin American history, world affairs, health, medicine, physical education and Communist tactics.

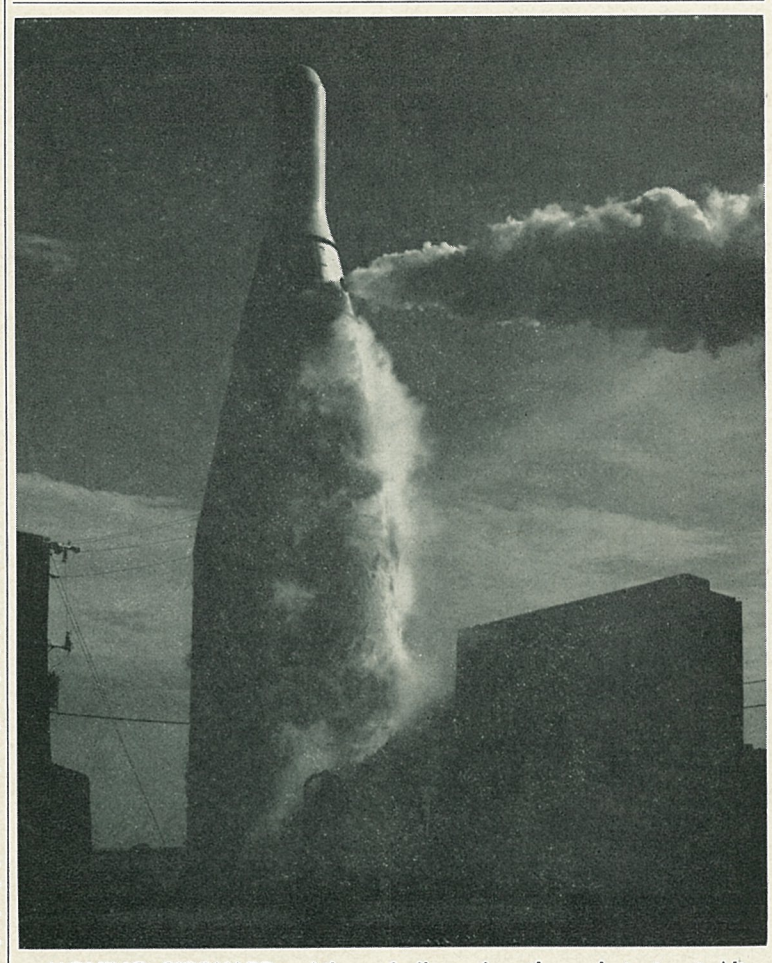
When actually assigned overseas, Eiland will receive a salary comparable to his Peruvian counterpart, possibly $100 per month. After two years with the Peace Corps he will be paid $75 for each month spent in service.

Prior to joining the Peace Corps, Eiland was a master schedules analyst for Astronautics here.

FW Design Engineer Takes Navy Duty

Robert L. Burns, GD/FW senior design engineer, recently spent 14 days active duty at Naval Air Station, Los Alamitos, Calif.

The Naval Reserve lieutenant and pilot learned latest techniques of anti-submarine warfare with his squadron, VP701, home-based at Dallas Naval Air Station.



MOVING SKYWARD—Atlas missile going through tests at Altus AFB rises from silo spouting vapor through liquid oxygen boil-off valve. Operation was part of continuing check "birds" go through in validating facilities. George Smith, Astro photographer at Altus, made this shot.





PRACTICE RUN—At left, GD/Convair's Bob Clayton prepares to play tow boat for daughter Debra. At right, another daughter, Donna, planes surface of family swimming pool. It's fun for kids, and keeps Clayton in shape! Father discovered possibilities as training ground by accident. Mrs. Clayton faces learning by conventional method behind towing boat.

Practicing

Children Learn To Water Ski in Backyard Pool

Fantastic as it sounds, a GD/Convair father has taught his three small girls to water ski in the safety of a backyard pool!

Just this month, Bob Clayton, GD/Convair transport service engineering, bought skis for the family for the first time. Thinking it would be a good idea to teach his daughters, Diane, 10, Donna, 9, and Debra, 8, how to put on skis in the water, he put them in life jackets and tried this in his 35-ft. pool.

After they had mastered this trick, the next logical step, he reasoned, was to simulate the starting jolt. To accomplish this, he rigged a 20-foot rope with handles and commenced to run along the poolside, rope in hand.

To his surprise, when he turned his head, he saw Debra rising to the top of the water in skiing position. Encouraged by this development, Clayton spent several days teaching his girls at home. Now Clayton is sold on his method for teaching youngsters because, on their first trial at Mission Bay, the girls all performed like veterans.

"I know this method is much safer for the small fry and you can get more practice starts in less time than using a boat to pull the pupil. With a boat you're constantly turning around and retrieving the skier.

"In the pool, if the pupil falls, you just give another pull. Besides, it is cheaper and easier than driving out to a bay or lake. It's particularly helpful if you have only a few minutes to practice," said Clayton.

Unfortunately for his wife, Barbara, adults are too large to tow by hand. Clayton intends to teach Barbara to ski in the conventional manner with a boat and probably a few rough dunkings in waters of Mission Bay.

At least, the girls will be able to give their mother some helpful pointers!

Toastmasters Talk at Luau

Three top speakers of Dynamic Toastmaster Club #457 demonstrated their skills at the GD/Convair Management Club luau Aug. 15 at the Catamaran Hotel.

Bob Byron of GD/Astro, Ken Samples and H. C. Hoskins of GD/Convair chose a range of informative, provocative, humorous subjects.

Byron took "A Critical Look at Education." Samples, past president of General Dynamics Toastmasters group, urged his audience to hold to straight party lines in his speech on "Political Beatniks."

Hoskins, dressed in full "gunslinger" regalia, described "Texas" in drawling terms, complimentary and otherwise.

Speakers were introduced by J. L. Williamson, Toastmasters president, and M. L. Sweeney, founder of the General Dynamics club. Cy Campbell of GD/Astro, governor of District V, which includes San Diego and Imperial counties, evaluated talks.

Toastmasters meet regularly at 6 p.m. each Thursday in the Convair cafeteria, Pacific Hwy. All General Dynamics men are invited to attend and may obtain information from Sweeney, Plant 1, ext. 1687.

Apprentice Stamp Sales Begin Sept. 1

A commemorative postage stamp to go on sale Sept. 1 will be of especial interest to General Dynamics apprentices.

Wayne Turner, GD/Convair educational services coordinator for the division's four-year apprenticeship program, said that the four-cent apprenticeship stamp marks the 25th anniversary of the National Apprenticeship Act which inaugurated the national training program.

The stamp, in black on buff-colored paper, depicts a gnarled hand offering a micrometer to an outstretched young hand, symbolizing the transfer of skill.

Collectors wishing first-day cancellations may send addressed envelopes, together with remittance to cover cost of stamps to be affixed, to the Postmaster, Washington 13, D. C. Orders for covers can not include requests for uncancelled stamps, and must be postmarked not later than Aug. 31.

Watters Appointed GD/FW's Controller

Daniel L. Watters, former manager of budgets at General Dynamics/Fort Worth, has been appointed division controller, succeeding E. L. Farmer, who has left the company to join Bell Helicopter.

Watters joined San Diego Division in 1942 and transferred to Fort Worth in 1951 as budget supervisor.

H. E. Wolfe, M. C. Curtis Appointed To Program Manager Positions

Two new program manager posts have been created at GD/Convair for improved overall control of division tasks, R. A. Neale, vice president and general manager, announced.

H. E. Wolfe has been named program manager for spares and engineering change proposals. M. C. Curtis is program manager for engineering research and development tasks. Both report directly to Neale.

In making the new personnel appointments, Neale said that Wolfe will direct and coordinate interdepartmental implementation of all phases of the division's spares program, including service action. He will be responsible for coordinating implementation of all engineering change proposals and monitor program performance to targets, analyze status reports to detect problem areas, and direct necessary corrective action.

Curtis, assistant chief engineer-administration, will monitor all miscellaneous engineering research and development tasks, such as special test and study progams and similar projects for which engineering is responsible.

Wolfe joined the company at Fort Worth in 1947 and transferred to San Diego in the fall of 1952 as spares representative.

Curtis came to GD/Convair in 1951 as technical analyst in engineering. He transferred to industrial relations five years later and was engineering personnel adminstrator in 1958. He was named chief engineer-administration in 1961.

GD/Convair Firemen Cover Crash Landing To Prevent a Blaze

GD/Convair's fire department was on the receiving end of heartfelt thanks from a pilot and passengers who survived a recent crash landing on Lindbergh Field without injury.

The division's fire-fighting equipment stood by while the two-engine craft, piloted by Ciro Martinez of Mexicali, was bounced off the runway in a futile attempt to dislodge a locked landing gear. When Martinez finally brought the plane in for a crash landing the GD/Convair crash truck covered it with protective foam seconds after Martinez, and his three passengers, Mario Hernandez, wife and daughter, dashed uninjured from the craft.

In a letter to the manager of GD/Convair, Hernandez wrote, "On behalf of my family, my pilot, and myself, I wish to express our sincere appreciation for the help that was extended to us . . . It was a great relief to know that we were aided by your fire fighting equipment which was prepared for any emergency, and avoided any fire that could have started."

PROMPT CLAIMS FILING SOLICITED

Claims for weekly disability payments should be filed by General Dynamics people as soon as possible after they start sick leave, reminds J. K. Field, chief of GD/Convair employee services.

General Dynamics personnel working in California now must file state claims for weekly disability payments during off-job illnesses or injuries directly with the California State Disability Office.

Group insurance claims must be made as usual through the division's employee services office.

Employee services will provide state forms for disability claims, either upon telephone request or on personal visit. Or, they may be obtained from the local State Disability Office.

American 990s On Exhibition

American Airlines will ground 990 Astrojets at six airports for public inspection this Sunday (Sept. 2) during Operation Sky Shield which closes the skies to commercial operations for five-and-a-half hours.

Convair 990 airliners will be seen at Cincinnati, Dallas, New York Idlewild Airport, Phoenix, Chicago, and Cleveland. Altogether, 13 of the Convair-built jet transports will be featured during AA open house at its various facilities.

This is the second year that American has invited the public to inspect its aircraft and ground facilities during the North American Air Defense exercise which grounds all planes except military aircraft.

Adv. Products Men to Speak

Top executives of Advanced Products Department of General Dynamics Corporation will participate in two machine tool seminars conducted by American Society of Tool and Manufacturing Engineers in October.

W. G. Mang, general sales manager of Advanced Products Department, headquartered at San Diego, will deliver a paper at the Oct. 1-5 meeting in Los Angeles, Calif. The title will be "High-Energy Rate Forming."

The second paper will be given by J. A. Kline, Advanced Products manager of research and development, at the ASTME meeting in Chicago later the same month. His paper is titled "Expanding the Capabilities of the Pneumatic-Mechanical Process."

Developments in other areas of the high-energy rate process will be included in Kline's paper, including an analysis of lubricants and anti-weld agents for pneumatic-mechanical forming and formulas to determine the correct forging temperatures and energy requirements of various materials.

Both papers will be available in published form through the Detroit offices of ASTME immediately following the seminars.

Advanced Products Department of General Dynamics designs, engineers, and manufactures the DYNAPAK high-energy rate metalworking machine which has gained increased acceptance throughout the metalworking industry due to its production reliability.

DYNAPAK equipment is the only pneumatic-mechanical high-energy rate equipment performing day-to-day production work in forging, extrusions, and metal compaction and has established leadership in the relatively new field. DYNAPAK equipment now is in operation throughout the United States and in Japan and Europe.

Dynamics Executives Chosen For Key Roles In Planning National Engineers' Week

First general meeting to map plans for the 1963 National Engineers' Week has been set for 7:30 p.m. Sept. 11 in the City Council Chambers, Civic Center in San Diego. All engineers are invited.

As in the past, General Dynamics Corporation officials in the area have been tabbed for key roles. The week will be held beginning Feb. 22, 1963, under the national slogan: "American Engineers Build for the Future."

RAdm. J. R. Davis, CEC, USN, is general chairman. His executive committee includes E. M. Getzoff (Astro) as executive general chairman. Getzoff is also 1963 state chairman. R. H. Biron, General Dynamics vice president, is a member of this committee.

Honorary directors include J. H. Famme, president of GD/Convair; J. R. Dempsey, president of GD/Astronautics; Mortimer Rosenbaum, executive vice president of Astro; E. D. Bryant, Astro vice president-operations; W. W. Withee, Astro vice president—research and engineering; and K. J. Bossart, Astro technical director.

Astronautics personnel named to committee appointments include Ted S. Cope, sub-committee co-chairman for public relations; Charles F. McCabe, sub-committee chairman for programs and events; H. H. Boynton, sub-committee co-chairman for records and communications; and Phillip J. Swanson, sub-committee chairman for professional societies liaison.

Giessinger Among Reliability Grads

L. M. Giessinger, research engineer at GD/Astronautics, was one of a group of students successfully completing a U.C.L.A. (Department of Engineering) course called "1962 Reliability and Statistical Methods in Industry."

The course, which drew 155 students, contained instruction in industrial reliability, basic measurements and standards and non-destructive testing.

Publications Editor Attends Convention

J. D. Meacham, publications editor at GD/Convair, is in New York this week representing the division at the annual convention of American Management Association Aug. 27-29.

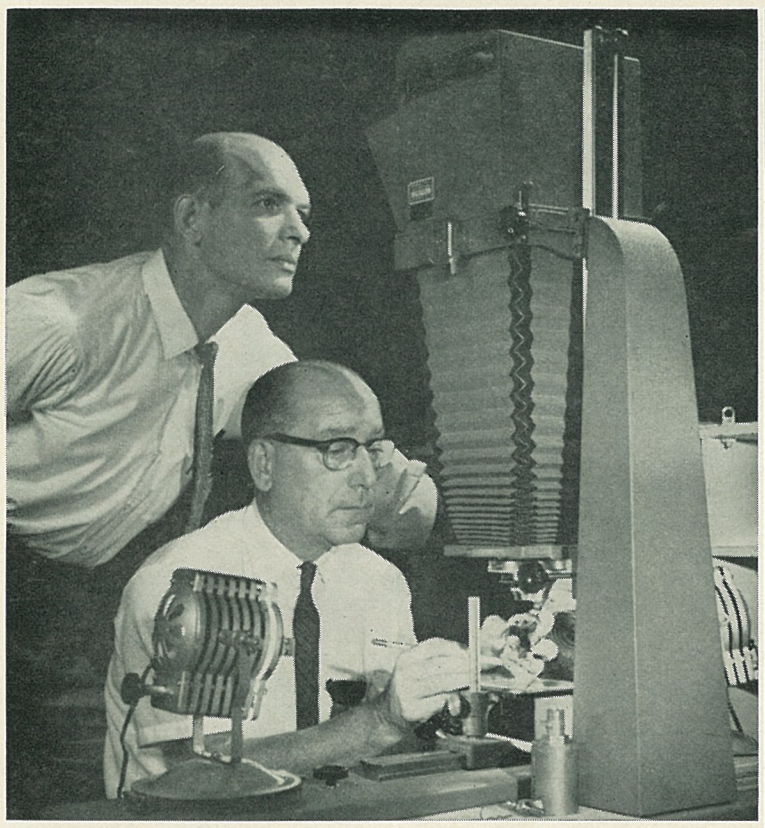
Convention chairman is Dr. Robert F. Mager, consultant with Varian Associates, Palo Alto, Calif., engineering firm. Dr. Mager, an authority in the field of programmed instruction, conducted the initial training session for GD/Convair and GD/Astronautics men at San Diego early this year.

Dynamics Facilities Face Long Weekend

General Dynamics people everywhere will enjoy a three-day weekend with the observance of Labor Day.

Next Monday (Sept. 3) will be a holiday for all divisions in the United States. Only those persons necessary to maintain essential maintenance and security functions will be required to be on the job. They will be notified in advance by supervision.

Work shifts will resume at regular times on Tuesday (Sept. 4).



IN THE LAB—Richard Roeser, GD/Astro reliability engineer, watches as Emil Minette, photographer, demonstrates photomicrographic process, helpful in reliability studies.

'62 Harmon Trophy Added To B-58's List of Laurels

Lt. Col. William R. Payne of 43rd Bomb Wing has earned the 1962 Harmon Trophy for piloting a B-58 Hustler on the historic, record-smashing flight across the Atlantic last May.

Majs. William L. Polhemus, navigator, and Raymond R. Wagener, DSO, rounded out the three-man crew that streaked from New York to Paris in slightly under 3 hours, 20 minutes, averaging 1,089 mph.

The single flight began at Carswell AFB and proceeded over Washington and New York to Paris along the same 1927 trail-blazing route of Charles A. Lindbergh, second pilot in history to win the Harmon Trophy.

A record was also established for Washington-to-Paris: slightly over 3 hours, 39 minutes, averaging 1,048 mph.

Colonel Payne, a link-trainer instructor for the U. S. Army and later pilot of B-24s in World War II, has amassed over 8,500 flying hours.

The Harmon trophies are perpetual "American Awards for outstanding international achievements in aeronautics," preferably connected with scientific experimentation and research of world-wide importance.

Winning of the Harmon Trophy by Colonel Payne marks the fifth major trophy or award won by crewmen flying in the Mach 2 Hustler. Others include:

The Bendix Trophy—Awarded a B-58 crew for flying from Los Angeles to New York and back in slightly over 4 hours, 41 minutes.

Bleriot Speed Trophy—won by B-58 crew for streaking over a closed-circuit course of 1,073 kilometers (666 statute miles) in 30 minutes, 43 seconds.

The Thompson Trophy—in recognition of record-breaking flight that established three new world speed records over a 1,000-kilometer closed course.

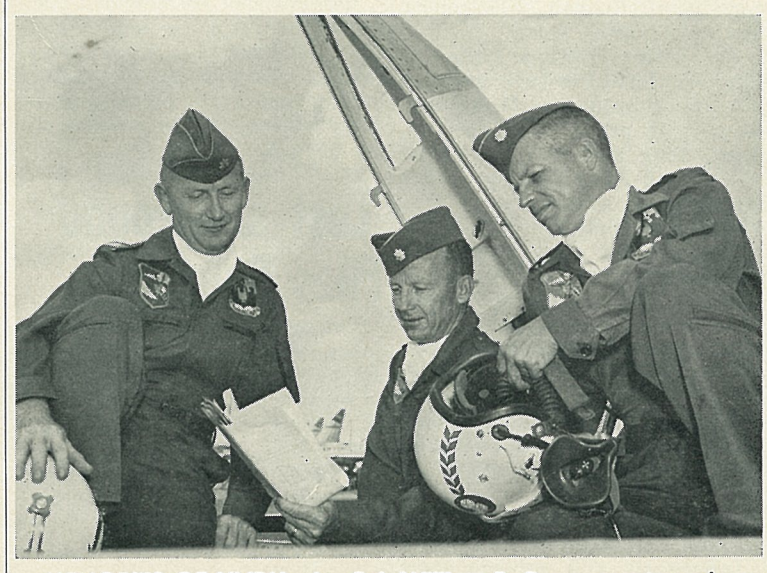
Mackay Trophy—which considered the New York-to-Paris flight the "most meritorious flight of 1961."

All told, the Hustler has amassed a total of 12 world records since it became an operational member of the U. S. Air Force Strategic Air Command.

H. C. Keith Completes Reliability Course

H. C. Keith, GD/Astro standards laboratory group engineer, Dept. 561-3, has completed a course in reliability and statistical methods at University of California, Los Angeles.

Over 155 participants in the course received instructions in various applications of statistical methods and designs, including new features of industrial reliability, basic measurements and standards, and non-destructive testing.



MEMORIES OF LINDY—Lt. Col. William R. Payne, center, winner of famed Harmon Trophy for spectacular B-58 New York-to-Paris flight, is shown with crew which helped him set record, Majors Raymond R. Wagener, left, and William L. Polhemus.

New Technique Called For in Communication

Unless progress on information handling techniques is made soon "we'll all be buried—not by Mr. Krushchev but by the weight of our own paper."

This observation was made Aug. 17 by Mortimer Rosenbaum, executive vice president of General Dynamics/Astronautics, in a luncheon speech before California Western University's Management Seminar in Communication Technology meeting in San Diego.

Attending were executives from across the nation. Melvin Day, National Aeronautics and Space Administration director of scientific technical information, was a featured dinner speaker.

Rosenbaum spoke of the specific problems of a technical industry faced with a workday dilemma of selecting needed facts from the swelling flood of information being generated by science and technology. He urged a higher order of planning to come up with a communication rationale, or framework, in which to select, store and control information needed by engineers and scientists as of the time they tackle a design problem.

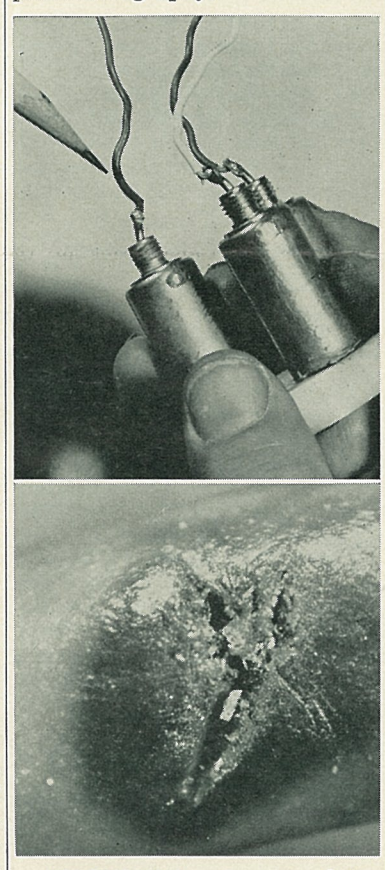
Secondly, he said, it is time for engineers and communicators alike to figure out the design of the information-handling apparatus that will be needed to support equipment at the same time the equipment itself is designed.

Citing timeliness, he said there is no point in collecting so much data for a man that he "cannot get his mind around it."

Rosenbaum suggested the use of symbols rather than words and computer data.

Cameras Reveal Clues To Causes of Failure

Microscopic imperfections, or damage to missile components now "show up big" for reliability control engineers at General Dynamics/Astronautics, thanks to photomicrography.



"BLOW-UP" — In top photo, pencil points to tiny insulation break, and in lower photo break is shown greatly magnified by camera. Technique is helpful in determining causes and eliminates bulky explanatory written reports.

This technique involves photographing subjects through microscope-type lens. With the subject greatly magnified, finished prints are used for analysis, documentation or study.

Photomicrographic equipment has been available at Astronautics for some time, although the present high level of use (30 to 50 jobs per week) stems primarily from increased utilization by reliability control laboratories.

"Prints augment many of our reliability control test reports," said L. A. Milton, reliability control group engineer. "They eliminate the need for lengthy written reports, reduce report preparation time and become a handy reference should we be called upon to repeat a test on any component or part."

A typical utilization involved a small part of a filter unit which failed at Plattsburgh AFB. Routine field examination turned up no clues as to why the part failed. It was routed to Astro's reliability control test laboratories for a hurry-up failure analysis. While laboratory technicians were able to duplicate conditions under which the part operated, they, too, were temporarily stymied as to the cause of failure.

Going further, the part was cut open for study. Examined under a microscope, the part was found to have a mere pin-point-sized break in insulation material covering a small wire. It was the cause of failure.

Photomicrography was brought into play with the break magnified many times for additional study. Finished prints went into the report which was sent to responsible parties for corrective action.

Astro's still photographic laboratory operates the photomicrographic equipment with Emil Minette as photographer.

Equipment consists of a bellows-type camera equipped with a microscope-type lens which can magnify subjects as many as 40 times. Additional magnification is possible in prints made from the standard 4x5-inch negatives exposed.

While the unit is mounted on a firm base for handy use, it can be rotated in any direction, making possible photographs of just about any type or size component. And it can be moved, if necessary, to handle larger sized objects such as an entire missile on the line.

Small flood lights are a part of the equipment which can also use larger studio illuminating facilities.

For "rush jobs" Minette inserts a Polaroid packet in the camera and comes up with a finished print within one minute.

Navy Requires Best in Aircraft And Ships, Says CINC Atlantic

The nation's newest Polaris submarine, the Alexander Hamilton, was launched at Groton, Conn., Aug. 18 as the Navy's Commander-in-Chief Atlantic warned that "less than the best in naval manpower and equipment is not acceptable for our nation's defense."

Speaking in noontime launching ceremonies at General Dynamics/Electric Boat, Adm. Robert L. Dennison said "the need for national sea power and superiority on the sea has never been more evident.

"This modern Navy of ours requires the best. The best in ships, aircraft, weapons and personnel," Adm. Dennison declared.

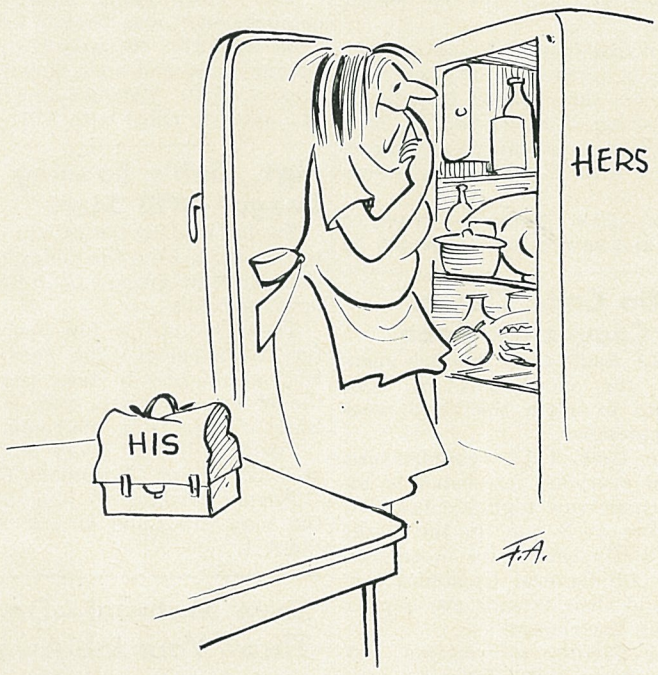
More than 10,000 were on hand as the giant submarine was christened by Mrs. Valentine Hollingsworth Jr., of Beverly, Mass., a great-great-great granddaughter of Alexander Hamilton.

Also participating in the half-hour program were Adm. Edwin J. Rowland, Commandant of the U. S. Coast Guard; Roger Lewis, chairman and president of General Dynamics; and Carleton Shugg, president of Electric Boat.

The 7,000-ton Hamilton, designed to fire the 2,500-mile range Polaris missile, is scheduled for commissioning early next year.



BUBBLE BATH—Champagne sprays as Mrs. Valentine Hollingsworth Jr., great-great-great granddaughter of Alexander Hamilton, christens nation's newest Polaris submarine at General Dynamics/Electric Boat. Behind her is Roger Lewis, Dynamics' president.



Circus Tickets On Sale at $1

GD/Convair and GD/Astro Recreation Associations have bought out the "entire house" for "The Greatest Show on Earth" when the circus comes to Westgate Park next month.

General Dynamics families will be able to see the Sept. 13 performance of Ringling Bros. and Barnum & Bailey Circus at the low price of $1 each—man, woman, or child. Show time is 8 p.m.

Tickets now are on sale at all Astro employee services outlets; at Convair employee services, Bldg. 32, Plant 1; office of Virginia Cannon, Rose Canyon; office of Juanita Jones, GD/Electronics Hancock St. facility.

The over-8,000 tickets will be sold on a first-come, first-served basis.

New spectacles in the 1962 showing include "Around the World in Eight Minutes," said to be a space-age version of Jules Verne's classic. Hundreds of human and animal performers will take part in the extravaganza.

Autumn Big Bear Trip Ahead For Skate Club

An "Autumn Weekend at Big Bear Lake" has been planned by the joint ARA-CRA Ice Skating Club for Sept. 14-15-16 and is open to all Convair, Electronics, and Astronautics folk.

The entire Wawona Lodge at Big Bear Lake has been reserved just for this group. It includes rooms with private bath for two, three, four and five people as well as 10 housekeeping cabins for four and several cabins that will accommodate more.

Those taking part may enjoy ice skating, including a private session Sunday morning, swimming, hiking, dancing, etc.

Gil Hutter, Prophet Co. cafeteria manager at Astro, will again serve as chef. He and his crews will serve two breakfasts, a barbecue dinner, a poolside buffet on Saturday and Sunday afternoon snacks.

Total cost per person for lodging and five meals is only $11.

Individuals will provide their own transportation to and from the popular mountain resort.

This trip is the seventh made to the locale and the third in which Wawona Lodge has been booked exclusively.

Reservations are now being accepted by employee services offices at Plant 1 and at Astronautics. First-come, first-served arrangements will prevail and no cancellations will be possible after Sept. 7.

Children See 'Wizard of Oz'

Sixty youngsters from Nazareth House thrilled and chilled along with Dorothy amidst her hectic experiences in the "Wizard of Oz," as a treat from General Dynamics/Convair Management Club.

The children, 6 to 14 years old, occupied a special block of seats purchased for them by the GD/Convair club at the Aug. 17 Starlight performance. M. L. Sweeney, club treasurer, and his wife were instrumental in arranging the highlight for the children, who, otherwise, would have been unable to attend the spectacular.

Assists came from the Starlight Opera which gave the GD/Convair Management Club reduced rates for the seats and from the San Diego Transit Co. which furnished transportation for just the cost of a driver.

Children also were treated to pop, popcorn and all the extras at their special "night out."

'Lost and Found' Files Bulging

Contact lenses in a black case, found in Bldg. 2, Plant 2, are among items currently being held in bulging "lost and found" files at General Dynamics/Astronautics.

Owner of the contacts may claim them by calling at employee services, Bldg. 28, Plant 2, or by calling Helen Johnson, ext. 1182, there.

Astro employee services at the main plant, as well as Plant 2, reports numerous items being held for employees. For instance, there is a copy of a Navy discharge, a sport coat, pocket Bible and several hundred keys and pairs of glasses waiting to be claimed.

Employees, as well as industrial security personnel, who receive lost items automatically send them on to employee services for safe keeping. Those who have lost items may call at Bldg. 8 (cafeteria) at the main plant or Bldg. 28 (cafeteria) at Plant 2.

Salvage Schedule Set For September

Salvage yards at GD/Convair and GD/Astro will be closed this coming Saturday (Sept. 1) because of the Labor Day weekend.

Both yards will hold employee sales, 8 a.m. until noon, under their normal alternating Saturday schedule for the balance of the month.

September schedule: GD/Astro—Sept. 8, 22; GD/Convair—Sept. 15, 29.



BIG TREAT—Bright-eyed children of Nazareth House beam appreciation for GD/Convair Management Club-sponsored night at "Wizard of Oz." Giving invitation are Al Fink, club prexy, and Larry Sweeney, treasurer. Standing beside Sister Mary Clement are Jean Glen of Starlight Opera and Mrs. Sweeney, in white blouse. —Photo by Sentinel photographer Ken Davies.

A. W. Carrolls Top CRA-ARA Dahlia Show

Mr. and Mrs. A. W. Carroll of GD/Astro swept the field with their dahlia entries at the annual CRA-ARA Summer Show which attracted a crowd of 1,500 spectators to the Floral Association Bldg. Aug. 12.

CRA Commissioner E. L. Zimmerman and ARA Commissioner Everett Henderson said that it was one of the most successful shows ever sponsored by the divisions' garden clubs. Over 250 entries were on display in the six categories, including dahlias, citrus and deciduous fruits, vegetables, arrangements, corsages, children's division.

The Carrolls won top honors for best dahlia in the show, as well as largest dahlia. LaVonne Splinter took award for smallest dahlia.

Other best-of-show entries were: C. H. Splinter, best ball dahlia; Jean Henderson, best deciduous fruit (peaches); Splinter, best citrus fruit (oranges); LaVonne Splinter, best vegetable (tomatoes); Evelyn Finley, best arrangement; Rose Hart, best corsage; Janice Zimmerman, best child's entry.

Blue ribbon winners were: Dahlias (over 4-in. diameter)—Red, LaVonne Splinter; yellow, Mr. and Mrs. A. W. Carroll; purple, Henry S. Boyd; pink, E. L. Zimmerman; white, C. H. Splinter; orange, Mr. and Mrs. A. W. Carroll; lavender, Mr. and Mrs. J. L. Bores; blends, LaVonne Splinter; bi-color, Evelyn Finley; varigated, Mr. and Mrs. A. W. Carroll.

Cactus or Semi-Cactus (over 4-in. diameter)—Red, LaVonne Splinter; yellow, Frank Cox; pink, C. H. Splinter; white, Dennis Zimmerman; orange, Mr. and Mrs. A. W. Carroll; blend, Mrs. A. E. Hornsby; bi-color, Mr. and Mrs. A. W. Carroll; varigated, Mr. and Mrs. Carroll.

Three Pompons (2-in. diameter or less)—Red, C. H. Splinter; yellow, C. H. Splinter; pink, Mr. and Mrs. A. W. Carroll; purple, C. H. Splinter; white, Mr. and Mrs. A. W. Carroll; lavender, C. H. Splinter; blend, Mr. and Mrs. A. W. Carroll; orange, E. L. Zimmerman.

Three Miniatures or Balls (2-4-in. diameter)—Red, Mr. and Mrs. A. W. Carroll; purple, C. H. Splinter; blend. Mr. and Mrs. A. W. Carroll; varigated and orange, C. H. Splinter.

Collarettes and Novelties—E. L. Zimmerman.

Deciduous Fruit—Plums, E. L. Zimmerman; apples, A. Hornsby; peaches, Jean Henderson; grapes, Mrs. J. Barton.

Citrus Fruit—Avocadoes, Walter McVay; lemons, Henry Boyd; oranges, C. H. Splinter; grapefruit, Mrs. J. Barton.

Vegetables — Legumes (beans) and roots (radishes), Mike Alianelli; leaves (parsley), Mrs. J. Barton; tomatoes, LaVonne Splinter; peppers and corn, Mike Alianelli; melons, H. S. Boyd.

Arrangements — Miniatures, Margaret Boyd; small, Grace Zimmerman; medium, Evelyn Finley; large, Mrs. Arnold Carroll; dry arrangement, Rose Hart.

Corsages—Orchids, Rose Hart; roses, Rose Hart; other cut flowers, Rose Hart and E. L. Zimmerman.

Children's Division — Janice Zimmerman and Sherrie Files.

CRA Prizes Await Winning Linksmen

Winners of the CRA golf tournament, held Aug. 11-12 at Coronado, may pick up their prizes from CRA Commissioner Ken Wulfemeyer, Bldg. 32, Plant 1.

Results in 0-15 division: first low gross, Logan B. Jenkins (son of Logan H. Jenkins, GD/NEWS editor), 74; second low gross, Russ Davis (Dept. 223), 78; first low net, Ken Eastin (Dept. 6), 67; second low net, Mel Doerr (Dept. 20), 70.

Winners in 15-23 bracket were: first low gross, E. Smith (Dept. 25), 89; second low gross, G. G. Baker (Dept. 171), 90; first low net, Bob Baker (GD/E), 67; second low net, Vic Janusz (Dept. 23), 71.

Results of 24-and-over division: first low gross, Don Bryson (Dept. 140), 98; second low gross (tie), George Nichols (Dept. 6) and C. F. Priddy (Dept. 400), 99; first low net (tie), Russ Baker (Dept. 6) and C. L. Thompson (Dept. 400), 72.

Golf Starting Times Needed For Tourney

Linksmen planning to enter the annual GD/Convair Plant Championship Golf tourney may obtain starting times next Wednesday (Sept. 5) by calling CRA Commissioner Ken Wulfemeyer, ext. 1705, Plant 1.

The yearly golf tournament is set for Sept. 8, 15, and 22 over Carlton Oaks Country Club course.



FAST PRODUCTION—Angie Harrison pulls paper plate from new processor recently installed in GD/Convair graphic reproduction to speed printing of thousands of pieces of printed matter. Watching are Harry Ashton of service publications and Herb Day, chief of graphic reproduction.

New Paper Plate Processor Expected to Save $28,000

An investment of $753 for a new piece of equipment in GD/Convair's graphic reproduction section will be parlayed into a saving to the division of $28,000 a year.

Purchase of a second paper plate processor will cut costs of plates for the printing of the 120,000 pieces going through the department from around $2 to 50 cents each, Herb Day, chief of graphic reproduction, reported.

Original processor, a Kodak Ektalith Loader-Processor, proved so satisfactory in making low-cost plates used on revisions for the 880/990 service manuals, that Day and Harry Ashton, publications technical specialist, joined in efforts to add another.

By this method paper plates for multilith printing are made directly from copy in a matter of minutes, eliminating the time and expense of metal plates, explained Day.

Now, the extra work load of printing commercial transport manuals, amounting to 1,400 pages a month, can be handled without delay, in addition to the normal amount of printed matter passing through the section.

Two operators can be kept busy without time-consuming delays of waiting for an idle processor when only one was available.

One operator can pull 30 paper plates an hour by the photographic copy method in comparison to the five or six hours it would take to turn out the same number of metal plates, reports the Resources Economics group, which monitored the project for actual savings.

"We are one step nearer our goal of producing the largest volume of work in the shortest possible time by the most efficient method," exclaimed Day in conclusion.

Deadline Set For Registration In Border Trailer Club Rally

Trailerites of the CRA Road Runners group must register before Sept. 20 if they plan to take part in the fourth annual rally of Border District Travel Trailer Clubs of America at Del Mar Fairgrounds Sept. 27-30.

About 300 trailers are expected to arrive from all over the Southland, said Ivar Peterson, co-chairman of the event and Road Runners member. Reservations can be made through the CRA club's secretary, Mrs. Regina Wawrzynski, BR-3-7417. Fee for the four-day weekend is $6, payable to Border District TTCA.

A special invitation is extended to anyone with a travel trailer to make reservations and attend as a guest of the Road Runners.

The GD/Convair club will be in charge of parking and children's entertainment. Members also will conduct square dancing Saturday evening with a surprise dance skit promised by Mr. and Mrs. Ray Devin. Road Runners will parade in club costumes Saturday and take part in the Hat Parade as well as the Hobby Show.

Hulburd's Grove Resort at Descanso is destination of Road Runners for their Labor Day weekend outing, Aug. 31-Sept. 3. John Woodhead is in charge as wagonmaster with Elmer Becker assisting.

Sixty-five travelers heard a talk and saw movies provided by park rangers at the recent trip to Burnt Rancheria Campgrounds. Bill and Edith Hamilton celebrated their 33rd wedding anniversary at the Saturday night potluck dinner and other entertainment saw several members of the Calico Twirlers and Black Mountain Squares joining Road Runners for square dancing to round out the evening.

Radio Code Classes To Commence Soon

CRA Radio Club still has openings for enrollment in code classes to begin the third week in September.

Jim Lack, CRA commissioner, urged everyone interested to attend tomorrow night's (Aug. 30) meeting at 8 p.m. in the Radio Club's Harbor Drive headquarters. All General Dynamics people and their friends are eligible to join the classes.

For further information, call Lack at ext. 2958, Plant 1.

Ernie Bickar Wins Center Fire Course

Ernie Bickar (Dept. 215) topped CRA "gunmen" to win the center fire Short National Match Course by two points in Aug. 12 competition of CRA Pistol Club.

Vern Mardis (Dept. 34) and Joe Williamson (Dept. 401) were close behind with 258s.

Williamson scored a 288 to win the master class in the .22-cal. Police Course. Mardis took another second with 285, breaking a tie with Jim Halfacre (Dept. 140) with his Xs.

Ash Bishop (Dept. 401), CRA commissioner, was first in expert class with 278. Bickar's 278 placed him in second spot, judged on a basis of Xs. Dale Young (Dept. 31) came in third with 270.

Mgt. Club's Bowling League Will Start

Twelve kegling teams will start rolling Sept. 10 in the annual GD/Convair Management Club winter bowling battle.

There are still a few openings for Management Club members who would like to take part in the 36-week tourney, said Harry Lund, club bowling chairman.

Teams will bowl every Monday at 6:30 p.m. at Clairemont Bowl.

Anyone wishing to join in the fun may call Lund at ext. 2321, Plant 1.

Save Material—Don't Throw Your Job Away!

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m.-1 p.m., Clairemont Mesa flying site.

ARCHERY — Free instruction starts Sept. 15 at Morley Field. Call Al Phipps, CY-5-8194 after Sept. 1.

BOWLING — Winter leagues now forming. Call CRA office, ext. 1245, Plant 1, or Jim Hayman, HO-6-1262, evenings. Second shifters call Frances Brooks, HO-9-8793.

BRIDGE CLUB—General Dynamics players invited to weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts. Special summer rates in effect.

CAMERA CLUB—Next meeting Sept. 10, 7:30 p.m., Photo Arts Bldg., Balboa Park.

FENCING—Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th and C Sts.

FISHING CLUB—Family potluck, Pecan Park, Sept. 18, 6 p.m.

GOLF—Call ext. 1705, Plant 1, on Sept. 5 for starting times in Plant Championship (Sept. 8, 15, 22) at Carlton Oaks Country Club.

GUN CLUB—Regular Sunday shoot cancelled Sept. 2 due to opening of dove season. Wednesday and Friday evening practice shoots, 6:30 p.m., Gillespie Field range.

ICE SKATING—Weekend outing to Big Bear Lake Sept. 14-16. Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES—Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot Sept. 9, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow (Aug. 30), 8 p.m., Harbor Drive headquarters. Code classes start in September. Call Jim Lack, ext. 2958, Plant 1.

RIDING CLUB — Campout, trail ride Sept. 15-16, Los Caballos Group Camp.

ROAD RUNNERS — Weekend outing to Hulburd's Grove Aug. 31-Sept. 3. Register for Border District TTCA rally, Del Mar Fairgrounds, by Sept. 20 by calling BR-3-7417.

ROCKHOUNDS — Rockhound Shack opens Sept. 11 for instruction. Next meeting Sept. 13, Gillespie Field clubhouse.

SOFTBALL — "Slow pitch" league games tonight (Aug. 29) Latter Day Saints fields, 47th and Ocean View Blvd.

SPORTS CAR CLUB — Meeting Sept. 5, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SQUARE DANCING — Beginners class cancelled. Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

STAMP CLUB — First fall meeting Sept. 6, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SWIMMING — Free family swim night Sept. 8, Mission Beach Plunge, 7-9 p.m. Tickets at employee services.

WATER SKI CLUB—Regular skiing sessions Saturday mornings, 8-11 a.m., off Santa Clara Point, Mission Bay.

Scores Soar as Teams Resume 'Slow Pitch'

GD/Convair "slow pitch" softball league passes mid-point in its second-half schedule with four games tonight (Aug. 29) at Latter Day Saints fields.

Convair Electronics takes on Manufacturing Control Plant 2, Hi-Lows meet Stores & Dispatch Plant 1 in twilight (6:15) games. Late action (8:15) sees Accounting vs. GD/E Production Control and GD/E Purchasing opposing Fire Department.

Second-half play started Aug. 8 with the top teams of first-half play picking up where they left off. Convair Electronics, first-half winners, squeezed a disputed 15-14 win over GD/E Purchasing. The two scorebooks didn't agree for awhile and the best action was off the field. One of the scorekeepers had "misplaced" a run in the 3rd inning. CRA Commissioner Pete Beyrer was called in to arbitrate.

Stores & Dispatch Plant 1, first half runner-up, easily beat their opponents, Accounting, 8 to 3. Hi-Lows trounced Manufacturing Control Plant 2, 12-1, and Fire Department swamped GD/E Production Control 20 to 8 in other games.

A three-way tie for first place developed Aug. 15 when Convair Electronics, Stores & Dispatch Plant 1 and Hi-Lows all won. Results: Convair Electronics over Fire Department, 18-8; Stores & Dispatch Plant 1 over GD/E Purchasing, 11-10; Hi-Lows, 18, GD/E Production Control, 7; Accounting, 20, Manufacturing Control Plant 2, 14.

STANDINGS

	Won	Lost
Convair Electronics	2	0
Stores & Dispatch Plant 1	2	0
Hi-Lows	2	0
Fire Department	1	1
Accounting	1	1
Manufacturing Control Plant 2	0	2
GD/E Purchasing	0	2
GD/E Production Control	0	2

Swim Night Slated At Mission Beach

GD/Convair and GD/Electronics employees can cool off at the monthly family "swim night," Sept. 8, 7-9 p.m., at Mission Beach plunge.

Tickets allowing free admission are available at employee services, Bldg. 32, Plant 1.

Fair Slates Coin Auction

CRA Coin Club members are urged to begin getting their exhibits ready now for the fifth annual Coinarama, Norm Neault of GD/Electronics, club president, reported.

The coin fair, Oct. 20-21, at El Cortez Hotel, highlights the year for all county coin collectors and numismatists. Coinarama is sponsored by San Diego County Interclub Numismatic Council.

Featured this year will be a Coinarama queen, numerous exhibits, lectures by leading numismatists and 40 bourse tables (provided by dealers, offering coins, medals and all numismatic supplies).

Major attraction will be a 1,000-piece "bid board" type coin auction in progress throughout the two-day show.

"This promises to be the best Coinarama yet and we invite everyone to attend free of charge. Noncollectors will find it entertaining and enlightening. This is the place where money is sold for money to buy more money," said Neault.

For further information, call Neault at ext. 2404, Plant 1.

Convair Son, 17, Wins National Skating Title

A GD/Convair son, 17-year-old John Renz, has won the national senior roller skating championship of the United States.

John, son of L. J. Renz, GD/Convair Dept. 25, rolled to victory in the American Amateur Roller Skating Championships at Lincoln, Neb., July 29-Aug. 4.

He won all five events to easily outstrip six other finalists for the senior men's singles title. His performance climaxed a three-year period which saw him capture the junior and intermediate titles also (**General Dynamics NEWS**, July 18, 1962).

John, a high school senior this year, plans to attend San Diego State College next year, majoring in science. Since he has reached the top in his athletic field, all he can do is defend his title.

"You can bet I'll be back there to defend next year and as long as possible," said John, who is undecided on trying a professional career in skating.

Ride Club Members Arranging Campout

Riding Club members at GD/Convair are looking forward to a campout and trail ride over the weekend of Sept. 15-16 at Los Caballos Group Camp.

The camp will be open at 8 a.m. Saturday morning (Sept. 15), said V. V. Thomason, club president. Everyone planning to stay overnight is asked to bring a bundle of wood for the evening campfire.

Riders will take to the trail at 9 a.m. from the Earl Allen Ranch at Hulburd's Grove and end their ride at Los Caballos.

All members and friends are invited to join in the outing, said Thomason. Reservations may be made with Jim Hill (Dept. 400-6) at Plant 1, ext. 798, after 4:30 p.m., or his home phone, HO-3-6357.

Tuesday Last Night For Reduced Rates

Last chance for GD/Convair and GD/Electronics employees to see the pennant-bound Padres at reduced ticket prices is Tuesday, Sept. 4.

CRA is offering Industrial Recreation Council tickets reflecting 75 cents reduction, at employee services, Bldg. 32, Plant 1.

TRAP SHOOTERS TURN TO DOVES

CRA-ARA Gun Club members will stop shooting clay birds long enough to try and bag the real thing with opening of dove season, Sept. 1.

CRA Commissioner Jack Swank reported that the club will not hold its regular first Sunday monthly shoot in September as local nimrods would be out in force shooting dove in the hinterlands.

Hunters still will be able to get in practice shots before the big day as regular practice shoots will be held tonight (Aug. 29) and Friday, 6:30 p.m., at Gillespie Field range.

The Wednesday and Friday schedule will continue as usual during the summer months. All General Dynamics people are welcome to use Gun Club facilities and may buy ammunition at reduced rates at the range.

Beginning Dancing Class Cancelled

Beginning square dancing instruction, originally scheduled to start next month, has been cancelled for the time being, reported Maury Scholz, CRA commissioner.

"Not enough have signed to warrant starting a new beginners class at this time," explained Scholz. "However, we will reschedule it whenever interest is great enough. We need at least eight squares to form a new course."

Intermediate and advanced square dancing sessions are held each Tuesday evening at 8 p.m., American Legion Hall, 4061 Fairmount Ave., and will continue throughout the fall and winter seasons.



HOLLOMAN LEAGUERS—Little League team, sponsored by GD/Convair Dept. 313 at Holloman AFB, gets ready for action in current season, delayed for cooler weather. Assistant Coach Frank Roeder and Coach George Rhodes line up with team members (front row, from left) Jesse Marquez, Tommy Rardin, Pete Najar, Mike Weaver, Mike Mirabal, Andy Looney. Back row, from left, are Wilford Smith, Gerald Miller, Don Roeder, George Rhodes Jr., Mike Padilla, Ernest Carter.

Sports & Recreation

Winter League Bowling Teams Now Organizing

Teams are now being formed for winter league bowling at GD/Convair, Jim Hayman, CRA commissioner, announced.

Six day-shift leagues will roll into action during the first two weeks of September with swing shifters' plans still in formation stages.

All leagues will bowl at 6:30 p.m. starting times at these locations:

Tuesday — Mixed handicap league, University Lanes. H. Skilton, ext. 2461, Plant 1.

Wednesday — Mixed handicap league, and mixed scratch league, Pacific Recreation. Bob Feeney, CY-6-1649, days; Hayman, HO-6-1262, evenings.

Thursday—Mixed handicap league, Frontier Lanes. Bob Saunders, ext. 1215, Plant 1.

Thursday—Mixed foursome, Victory Lanes. Frank Colianna, ext. 2424, Plant 1.

Friday — 850 scratch league, Tower Bowl. Mike Brooks, ext. 410, Plant 2.

Swing-shift bowlers are asked to call Frances Brooks, HO-9-8793. Additional information on entries may be obtained by contacting CRA office, ext. 1245, Plant 1.

Ted Milch's Bonita Good For $15 Prize

Ted M. Milch of Advanced Products won top money and button award for his entry in CRA Fishing Club's July contest.

His 11-lb., 11-oz. bonita, caught in La Jolla kelp beds was good for $15 and the award.

Second prize of $10 went to Harry W. Dvorak (Dept. 6) for a 18½-in. German brown trout hooked at Crowley Lake. Marjorie S. Grantham, wife of Glenn, club president, picked up $5 for a bull bass, 7 lbs., 9 oz., caught in Point Loma kelp beds.

Honorable mention went to last month's winner, S. L. Hampton, GD/Convair retiree, for a 22-lb., 14-oz. albacore.

Plans are now under way for a family potluck for fishing club members at Pecan Park, said Bob Menzie, CRA commissioner. Date will be Sept. 18 at 6 p.m.

Archery Lessons Scheduled Sept. 15

Free archery lessons for GD/Convair and GD/Electronics people start Sept. 15 at Morley Field, reminds CRA Archery Club Commissioner Al Phipps.

Lessons, starting at 10 a.m., will be held Saturdays as long as response warrants. All employees and their families are eligible but must furnish their own equipment.

After Sept. 1, Phipps will answer queries regarding lessons and other archery club activities. Call him at Plant 1, ext. 2594; evenings, call CY-5-8194.

Economy Run Plans Develop

Plans for the "Eagle Eye II Economy Run," Sept. 30, will be firmed at the CRA Sports Car Club meeting Sept. 5, CRA Commissioner Gerry Wright reports.

"This event is aptly named," says Chase Allen, rally master for the meet. "A sharp eye on all aspects of economical driving will pay off."

Awards will be given in each class, plus a sweepstakes award for the best overall ton-mile performance. A booby prize—complete tune-up under Wright's supervision — will be given for the poorest run.

The event is limited to sports cars only, with all General Dynamics drivers invited to participate. A picnic will be held as an added attraction.

Following the business meeting, Sept. 5, 7:30 p.m., in Convair cafeteria executive dining room, will be two movies, "The 1961 Le Mans 24-Hour Race," and "1960 Monte Carlo Rally." Members are encouraged to bring guests. Coffee and doughnuts will be served.

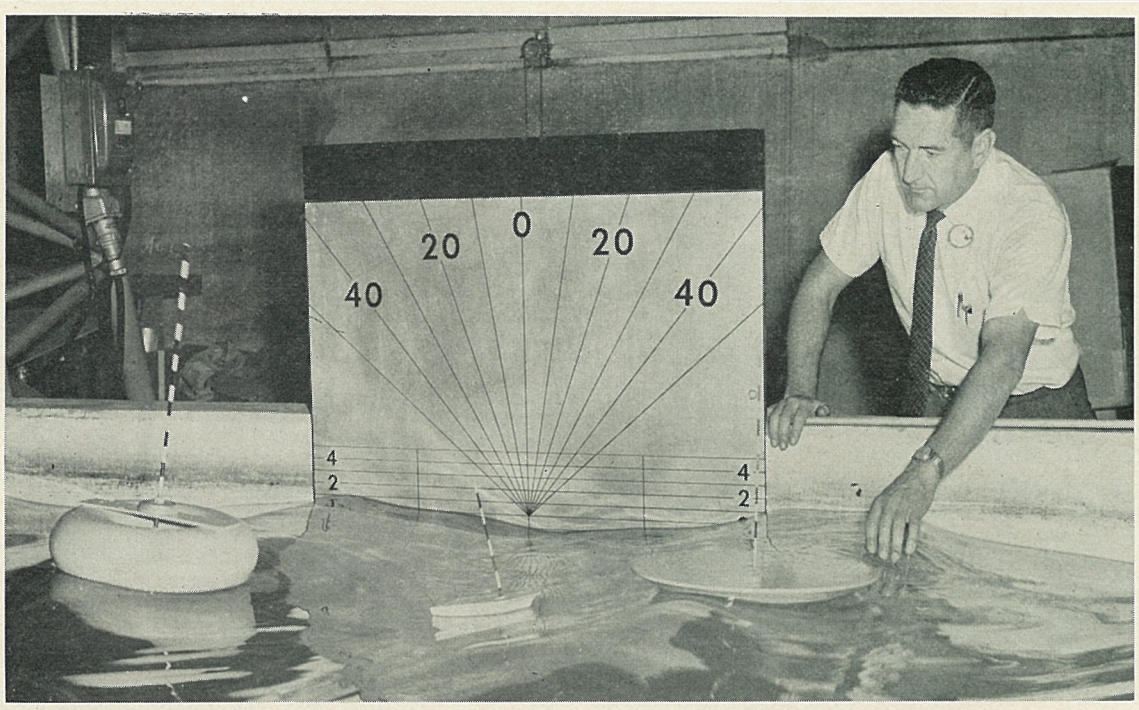
Auction of Stamps On Club Calendar

Auction of high-grade foreign stamps will highlight opening of the fall season for CRA Stamp Club next Thursday (Sept. 6).

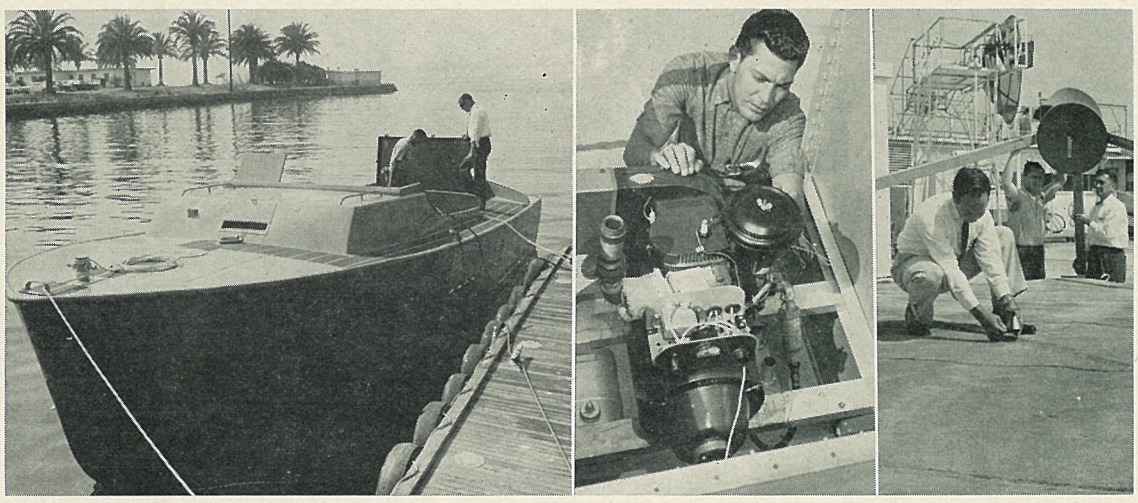
Members will hold their first meeting of the season, 7:30 p.m., in GD/Convair cafeteria executive dining room, Pacific Hwy. A large turnout is expected as foreign stamp auctions have proved very popular, according to CRA Commissioner Jack Benedict.

"Now is a good time for new members to start enjoying the hobby. All GD/Convair and GD/Electronics people are welcome to join in activities," said Benedict. He will furnish information regarding CRA Stamp Club at Plant 1, ext. 2572.

Stamp Club meetings will be held the first and third Thursdays of each month, 7:30 p.m., at the cafeteria location.



BOUNCING BUOYS—S. E. Sowers, GD/Convair instrumentation engineer, measures angle of mast on toy-like models of buoys under test for stability and mooring strength requirements under severe storm conditions in division's towing basin.



DEEP SEA HORSE—At left, Bob Devereux watches Ed Ingold prepare to shift ballast in LCP readied as test bed for ocean-going data transmitting power plant. In center, Larry Turchick works on engine/generator unit in experimental yard; at right, Jim Lack positions 100 to 1 scale antenna on ground screen atop Bldg. 51 as Jack Heming and Ken Morgan hoist feed antenna.

Convair Conducts Ocean Data Study

A bright orange craft will be moving out to sea within the next few days as an 18,000-lb. test bed in oceanographic studies now under way at General Dynamics/Convair.

The 36-ft. all-steel LCP (Landing Craft Personnel), topped with a high white snorkel, or antenna mast, will act as a platform for a power plant unit as one phase in the development of a remote-control broadcasting system to reveal secrets of the deep.

The contract, awarded GD/Convair by the Office of Naval Research, Washington, D. C., came as a result of an unsolicited proposal submitted by the division for the development of a system capable of transmitting data about oceanographic and weather conditions in deep waters from unmanned buoys to shore stations.

Present contract is a follow-on to an initial ocean data processing development contract completed the first part of this year. Current studies will be concluded by February of 1963, said N. W. Reed, flight test group engineer. Reed and his group of instrumentation experts are responsible for the project under overall direction of V. J. Schack. Robert Devereux is principal investigator.

"Such information as air and water temperature, water currents, acoustic measurements, will prove invaluable to oceanographers and meteorologists," explained Devereux.

"In fact, such a transmission system has untold possibilities. Its application could lead eventually to wide use in the science of the seas.

"And, with the development of a workable system, GD/Convair, as a leader in this little-explored field, will be equipped to produce both data transmission systems and buoys."

Information would be stored on tape in the instrumentation package aboard the buoys. It would be transmitted by coded signals on assigned frequencies upon command from shore stations.

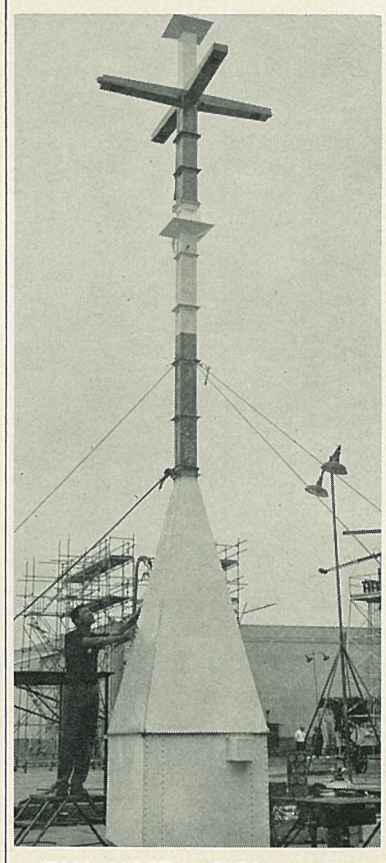
Now, flight test instrumentation engineers in the GD/Convair oceanography group are in the midst of testing buoys, antennas, power plant, instrumentation to arrive at the best possible transmission vehicle—one that could withstand 40-foot waves, 10-knot currents, and 150-knot winds while anchored in depths exceeding 20,000 feet.

Models of at least eight different types of buoys, some of GD/Convair design and modification, have been under checkout in the division towing basin. Here, all—of shapes ranging from doughnut or pancake, spar, boat-type—were towed at low speeds to check their reactions during simulated severe storm conditions to determine strength of mooring requirements. Other tests held the bobbing yellow toy-like buoys (from 1/10th to 1/40th scale) in front of a grid board while motion picture cameras ground out film capturing angle of the mast, or antenna, and wave height and slope.

Scale model antennas have been in omni-directional tests on the Bldg. 51 antenna range for amount of power, radiation patterns, and proper transmission in rolling waves.

A full-scale radio frequency link transmission test over 2,200 nautical miles of open water is planned within the next few months with GD/Convair engineers transmitting to a temporary receiving station in Hawaii.

The Navy LCP test bed, loaned to GD/Convair by ONR with the assistance of BUWEPSREP Office and renovated in experimental department, will be moored about a mile off shore from Mission Beach within the next week. It will be left there for the next three months during testing of a propane-fueled electric power plant which, it is hoped, will run without maintenance for months.



TALL MAST — White and orange snorkel tops structure (30 ft. high) to go on test craft as it takes to sea. It contains antenna, air intake for engine unit housed below.

GD/Convair flight test engineers will visit the boat two and three times a week, and telemetered data will be transmitted from boat to ground station at GD/Convair periodically.

"We received fine cooperation from both the Port of San Diego and the Navy in helping us get the boat into the water at the B St. pier and towing it to our ramp facility where instrumentation and the snorkel are being installed," said Reed.

"The Coast Guard, city police department, aquatic division of the city park and recreation department are going to keep an eye on our boat to help protect it from the curious—both seagulls and humans."

Six Divisions Send ASW Experts to Conference

More than half-a-dozen anti-submarine warfare programs of an inter-divisional nature are now being pursued by General Dynamics Corporation, it was reported at a meeting of the Anti-Submarine Warfare Committee in Rochester Aug. 6-7.

Charles F. Horne, president of GD/Electronics and GD/Pomona and chairman of the committee, presided. Representatives from six divisions and the corporate offices in Washington and New York attended. Victor Savchuk, executive secretary of the committee, arranged the program for the host division—GD/Electronics-Rochester.

Savchuk reported that the various divisions are contributing their specialized technology toward development of more effective ASW systems. The half dozen inter-divisional programs are in addition to numerous projects being conducted individually by divisions.

At ASW committee meetings GD/Convair provides information on aircraft and hydrofoils, Canadair on airplanes and ocean surveillance systems, and GD/Pomona on missiles and ASW weapon delivery systems. General Atomic is assisting with deep submergence unattended nuclear power possibilities, GD/Electric Boat with launching platforms and ASW submarines and GD/Electronics-Rochester with airborne electronics, underwater transducers and sonar devices.

The group visited SUTEC, underwater test and evaluation facility on Seneca Lake, and saw operations of the sonar test barge. George Sefcik, of GD/Electric Boat at SUTEC, discussed proposed propulsion modifications.

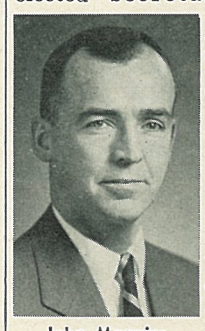
Attending the meeting besides Horne and Savchuk were: Thomas B. Pearson, General Atomic; George Schillreff, GD/Pomona; Hubert E. Brooke, GD/Convair; Dr. Herman E. Sheets and William L. Pryor, GD/Electric Boat; Robert L. Deans, Canadair; Ernest D. Lundell, Washington; and Robert J. Lutz, New York.

TOP TOASTMASTER

Cyril C. Campbell (Dept. 146-5) of General Dynamics/Astronautics recently represented 46 San Diego and Imperial County Toastmasters' Clubs at the 31st annual convention of Toastmasters International at Minneapolis.

John Maguire New Secretary Of Dynamics

John P. Maguire Jr., has been elected secretary of General Dynamics Corporation, Roger Lewis, president, announced last week.

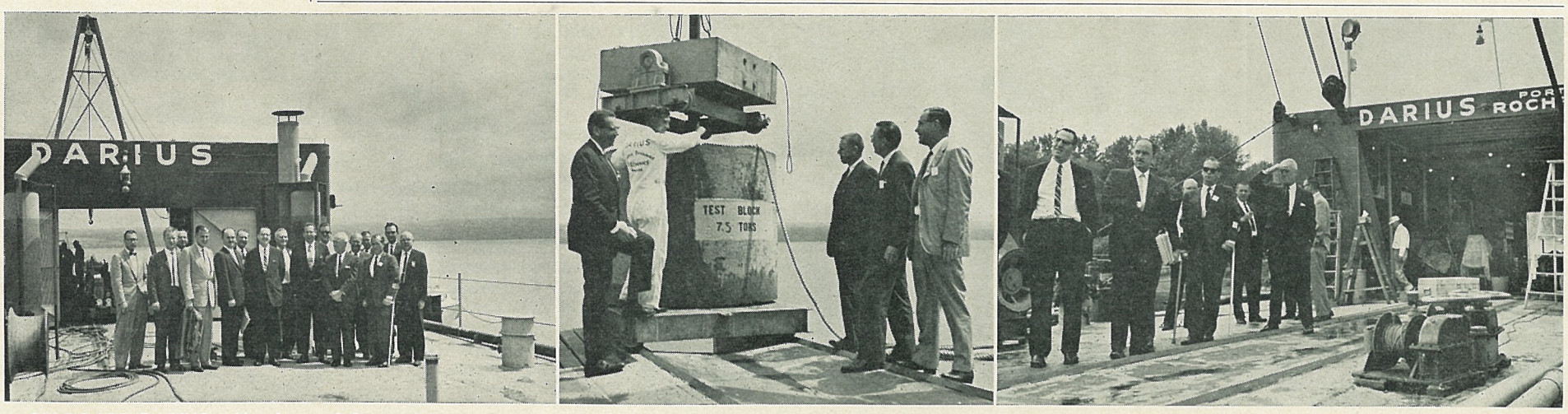


John Maguire

Maguire will assume his new duties Sept. 1, succeeding Allen D. Marshall who has been elected president and chief executive officer of United Student Aid Funds, Inc.

Maguire had been secretary and general counsel of Texas Butadiene and Chemical Corporation since 1960. During the six preceding years, he served as assistant counsel of General Dynamics.

Born in New Britain, Conn., in 1917, Maguire was awarded a degree in business administration from Babson Institute in 1936, an A.B. from Princeton University in 1941 and an LL.B. from Yale Law School in 1943.



ON BOARD DARIUS—Members of General Dynamics ASW Committee conferred at Rochester, N.Y., recently and inspected GD/Electronics' research barge, Darius, on Seneca Lake. At right, watching crane demonstration, are, from left: Harry B. Miller, GD/E, George Sefcik, GD/Electric Boat, Thomas Pearson, General Atomic, Charles F. Horne, president of GD/E and GD/Pomona. In center, Billy Forbes of Darius crew guides test block while Harry Miller explains barge's capability to Donald Nichols, GD/E, Robert Lutz, corporate office, H. E. Brooke, GD/Convair. At left is group photo of committee.

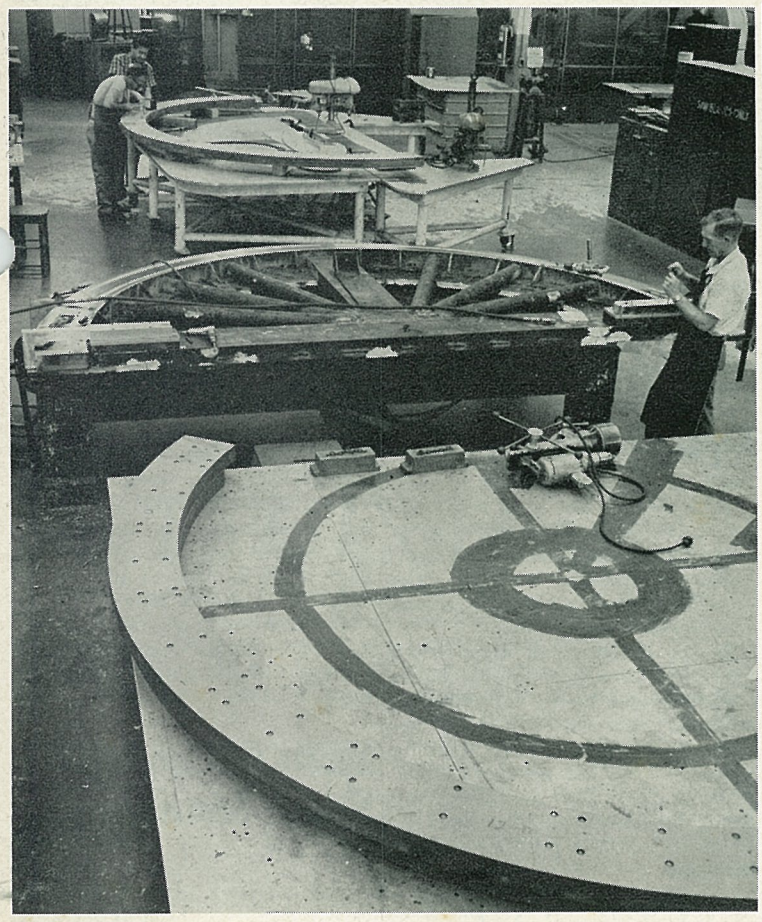
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GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 19 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, September 12, 1962



LITTLE JOE TOOLING—First bell frame tooling for Little Joe II assembly gets under way in GD/Convair tool manufacturing form blocks section. In background, Glenn Walker and Eddie Madrid work on stretch form, (at right) Jack Mullins adjusts end-of-part lines on steel frame.

PERT System Used to Plot Planning For Mgt. Club Dance

Management at GD/Convair is practicing what it preaches—systemized planning and control—right down to company social events.

Plans for the coming GD/Convair Management Club dance this Saturday (Sept. 15) have been synchronized with a PERT (Program Evaluation and Review Technique) network pinpointing each step of action.

John Dressler of quality control was assigned the task of drawing up the network by L. G. Lawson, general chairman for the sponsoring quality control and production flight department.

Applying the PERT technique just as it is used during development of General Dynamics products, from drawing board to delivery, Dressler charted the path and lead times of necessary operations from board approval Aug. 15 right through to D (Dance) Day one month later.

Most important decisions, such as location (OceanHouse) and orchestra (Marve Decker's), were plotted first with longest lead time. Other activities, including arrangements for tickets, refreshments, publicity, prizes, transportation facilities, patrol service, were scheduled in relation to each other with the help of committee chairmen.

And, everything was right on schedule down the line at last reading of the network, said Lawson.

"We felt that this was an excellent chance for management to use a recognized management tool," he said.

Members and guests can still purchase tickets, $3 a couple, at regular outlets and see for themselves just how successful the advanced planning method is.

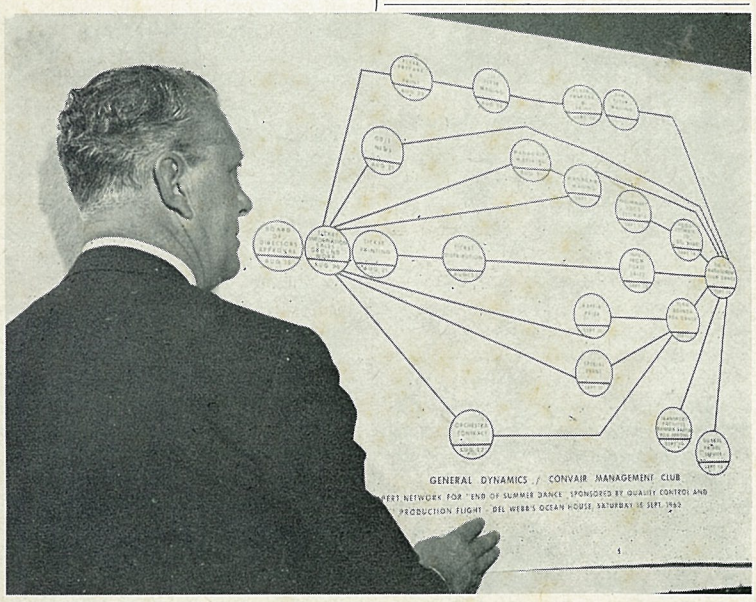
Autumn Dates Set On Salvage Yards

GD/Convair and GD/Astro salvage yards will be open, 8 a.m. until noon, for employee sales on the following alternating Saturday schedule.

GD/Convair—Sept. 15, 29.

GD/Astro—Sept. 22, Oct. 6.

Parents are reminded safety rules do not permit children in the salvage yards at any time.



DANCE NETWORK—Larry Lawson reviews PERT network for GD/Convair Management Club dance this Saturday (Sept. 15) to see if his committees are keeping schedule.

Quick Action Leads to Plug Of $5,000 'Leak'

Before the General Dynamics/Electronics value control seminar had run its full term last month, steps had been taken to correct a high price situation uncovered during the seminar.

R. E. Turnage Jr., chief of electronic design at GD/Electronics' Hancock St. facility, directed immediate investigation of team reports which might save over $5,000 through the next year on the cost of a component of the S-C 1090, direct view display console.

The team, researching costs which seemed higher than necessary on the magnetic shield for the S-C 1090's tube, showed that considerable savings could be realized if the shields were made in-plant. By using a different type of material and a slight mechanical redesign, cost might be cut at least $200 a unit.

Turnage, who originally proposed the project for a seminar review, said that team suggestions will be put into effect at once if they prove practicable.

"We definitely are achieving the prime purpose of our value control indoctrination when decisive steps are taken on team recommendations," said M. M. Reeder, GD/E value control coordinator.

"These seminars are more than a training ground—they are positive research into areas where we know we can improve costs and still maintain quality.

"And, in searching out these various areas, we need the help of all line supervision. The men in charge of operations are the ones who can point out projects to be put under scrutiny of value control teams for actual results!"

Team members on the magnetic shield investigation were M. K. Muir, C. A. Gleason, G. S. Elmore of the Hancock St. facility, and G. M. Unterberger of Plant 1.

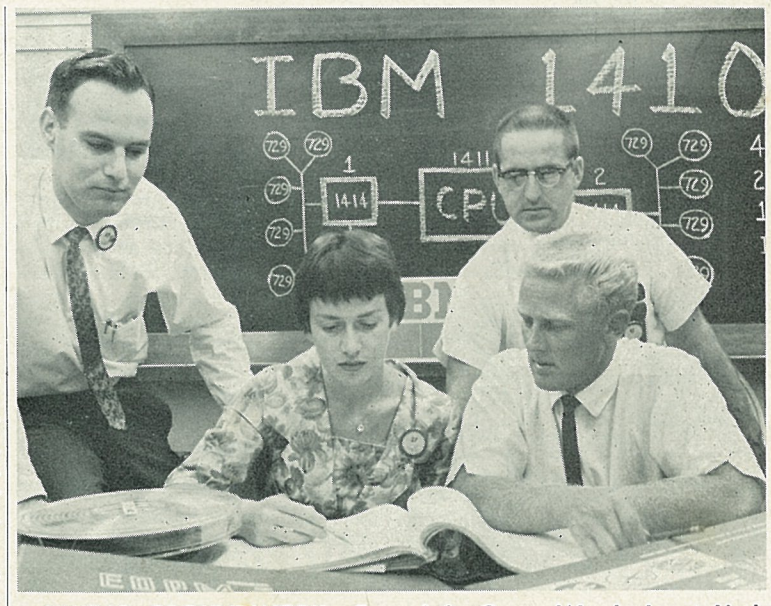
Another team carried on with a project which developed from the study of hook-up wire during a previous seminar. J. A. Majchrowicz, F. J. Schmidt, Steve Secketa, W. M. Hooper proposed a simplified and less expensive means of identifying hook-up wire in electronic components and systems. They estimated that as much as $40,000 a year could be saved with an initial outlay of around $12,000.

D. L. Zimmerman, G. G. Bair, T. P. Hargarten, R. F. Martin formed a third team in the Aug. 6-22 seminar, studying the AB-60595-3 terminal board, distribution, and synchronizer. Brainstorming ideas indicated a net savings of $1,048 by substitution of permanent splices for present terminal boards.

H. E. Schmidt of GD/Electronics engineering was project leader for all three teams.

Over 25 members of GD/Electronics management and supervision heard final team reports on concluding day of GD/E's third seminar, when diplomas were presented by William Lawrence, former GD/E general manager. C. W. Christie, acting value control coordinator, reviewed seminar results and future value control activity for the San Diego division.

So far, 88 GD/Electronics men have been indoctrinated in value control principles and thinking. According to both Reeder and Christie, emphasis is now being directed toward implementation of seminar recommendations. Refresher sessions will be scheduled throughout the fall.



LAYING GROUNDWORK—From left, Owen Ward, Janet Lind, Bob Goodwin, Cliff Dismuke, GD/Convair data processing research and development group, work on programmers' ground rules in preparation for new IBM 1410 computer.

Advanced Computer Will Save GD/Convair $15,000 a Month

Data processing programmers at General Dynamics / Convair now are laying the groundwork for a new data processing machine which will replace the present business computer before the end of the year.

At least 30 programmers will be spending 200 man-months reprogramming the division's business routines for the advanced IBM 1410, first of a new generation of data processing systems. It will take the place of the IBM 705, installed four years ago.

"Although a great deal of time must go into reorganizing our thinking and planning for the more advanced system, we will recover conversion costs within a few months," pointed out A. E. Andress, chief of data processing.

"The new-type computing system will save the division at least $15,000 a month. It has the same capabilities as the 705, with added advantages, at half the cost."

All of the division's business records handled by the data processing department will be converted for the 1410. These are engineering release system, planning system, including the master parts lists, inventory control, production order location and shortage reporting, payroll, financial records, and labor distribution.

"The new system will not only save us time and money, but allow a much greater flexibility in meeting changing requirements of our business reporting," said R. C. Hartwig, manager of systems and procedures and data processing.

When the 1410 is installed in the Bldg. 8 data processing center, probably by December, it will continue to operate, as does the 705, with information stored on magnetic tapes. However, preliminary planning is in progress to convert from tape storage to disc storage, a feature of the new system.

By adding the random access storage, information can be retained on discs, similar to a stack of phonograph records. Through programmed instruction, information can be brought back through the memory of the computer immediately.

Another new development allows instantaneous communication with other 1410 systems at other locations. Computers can be coupled together by microwave or telephone lines over any distance, and information duplicated on tapes at, for instance, GD/Astronautics or GD/Fort Worth.

In addition to the reduction in monthly lease charges, cost of maintaining the equipment will be less, said Andress, since the system is less critical than the 705 and can operate satisfactorily in a much wider temperature and humidity range.

Presently, at GD/Convair, the research and development data processing group under responsibility of G. O. Withem, general supervisor, is hub of operations in the gearing of GD/Convair requirements to the new system.

The group is developing programmers' ground rules, researching hardware and programs, and designing the kind of documentation necessary for the change-over. It is working directly with IBM in coordination of the division's needs.

Twice a week programmers commute directly to the Los Angeles IBM headquarters, nearest location of a 1410, to become familiar with its operation and test programming before the new computer arrives at the GD/Convair plant.

$16,000 DIVIDED AMONG CHARITIES IN YEAR-END SPLIT

Distribution of uncommitted Con-Trib-Club funds on hand as the fiscal year draws to a close saw $16,000 apportioned to 11 San Diego area organizations in bonus donations.

GD/Convair Employees' Con-Trib Committee approved the following contributions: Salvation Army, $5,000 for the redevelopment program to better serve the needy and troubled; Boy Scouts of America, San Diego County Council, $4,000 for operating expenses; Girl Scout Council of San Diego County, $2,000 for capital equipment.

Camp Fire Girls, San Diego County Council, $1,000, also for capital equipment; San Diego County Association for Retarded Children, $1,500; San Diego County Association for Retarded Children, North County Chapter, $500 for equipment for its Youth Activity Center.

San Dieguito Family Service Association, $250; Imperial Beach Family Service Association, $250; Foothills Family Service Association, $500; San Diego County Epilepsy Society, Inc., $500; San Diego Children's Dental Health Center, $500.

Log Book Entries



Lionel C. Hare, Dept. 140, is latest GD/Convair man to receive 25-year service emblem.

Service Emblems

CONVAIR

Service emblems due during the period Sept. 1 through Sept. 15.

Twenty-five-year: Dept. 34-1, G. S. Friend; Dept. 140, J. A. O'Connor Jr., Dept. 218, G. G. Shoop.

Twenty-year: Dept. 48, L. C. Antl; Dept. 101, W. O. MacRae, A. R. Schwartz; Dept. 115, G. G. Shipman; Dept. 123, R. L. Carlton; Dept. 140, E. B. Castaneda, G. F. Patterson; Dept. 171, C. E. Sipperley, D. G. Williams; Dept. 201, A. L. Crow; Dept. 215, C. M. Vaughn; Dept. 400, Helen S. Marshall, O. W. Sweetland; Dept. 401-7, C. C. Levey.

Fifteen-year: Dept. 2, Sarah B. Lasky, Carol M. Ulrey; Dept. 6-100, H. L. Blythe; Dept. 14, Letha W. Callaway, A. B. Murphy, H. O. Pack, R. T. Riding; Dept. 15-0, Ketha C. Johnson; Dept. 31, L. R. Scott; Dept. 44, Laura P. Rose, Virginia S. Soderberg, Myrna W. Waugh; Dept. 48, C. J. Falkenthal, Faye J. B. Martin, H. E. Salley; Dept. 171, M. E. Krogfus; Dept. 401-4, Robert McLenachen, T. R. Siebel.

Ten-year: Dept. 1-22, Ruth L. Manning; Dept. 6-100, Dorothy G. Adams; Dept. 14-5, O. R. Bryant; Dept. 16, R. C. Darroch, Lena P. Rogers, D. L. Schultz; Dept. 17-0, Derlie C. Kiriaze; Dept. 22-0, J. M. Kenna; Dept. 23-3, T. A. Baczek; Dept. 27-6, Arleatha S. Helton; Dept. 34-2, Marie G. Murphy; Dept. 48-18, J. N. Roberts; Dept. 91-8, Reinhold Zimmerle; Dept. 215, C. G. Chapman; Dept. 292-0, F. E. Hamlin Jr.

ELECTRONICS

Fifteen-year: Dept. 71-00, J. A. Riley.

Promotions

CONVAIR

Promotions to or within supervision effective Aug. 27.

Dept. 6-300, Product Design: To propulsion group engineer, R. J. Chillo.

GD/ELECTRONICS

Dept. 34-00, Product Test: To asst. group engineer, R. E. Russell.

Dept. 70-00, Operations, Plant 1: To manager of manufacturing, H. O. Patchel.

Retirements

CONVAIR

BRADLEY—Luther R., Dept. 401. Seniority date Oct. 16, 1951, retirement effective April 15, 1962.

BUTCHER—Hobart S., Dept. 218. Seniority date Jan. 3, 1952, retirement effective Sept. 1, 1962.

COLE—Robert C., Dept. 140. Seniority date May 20, 1953, retirement effective Aug. 1, 1962.

ERNST—Ole T., Dept. 215. Seniority date Jan. 9, 1951, retirement effective July 3, 1962.

RUIZ—Julio B., Dept. 120. Seniority date Oct. 1, 1947, retirement effective June 19, 1962.

SCHEIDT—Anna S., Dept. 101. Seniority date Jan. 29, 1951, retirement effective Sept. 1, 1962.

SHERRAD — David L., Dept. 401. Seniority date Oct. 26, 1954, retirement effective Aug. 22, 1962.

Deaths

CONVAIR

BILKA—Paul A., Dept. 133. Died Aug. 30. Survived by wife, Mary L.; daughter, Sharon Bilka; his parents, a brother, two sisters.

SHANKLE — William H., Dept. 215. Died Sept. 1. Survived by wife, Blanche; sons, Charles L. and Russell L. Shankle; his mother, sister, three brothers.

ADVANCED PRODUCTS

HOLLAND—Theodore R., Dept. 986. Died Sept. 3. Survived by wife, Verna; son, Theodore W. Holland; daughter, Geraldine Jenkins; mother, Mrs. Eva C. Holland.

Rider-Driver

CONVAIR

RIDE or RIDERS—3:30 p.m. to 12 midnight, vicinity Moraga & Idlewild, North Clairemont, to Plant 1. C. B. Howard, home phone, BR-3-0857 after 10 a.m.

RIDE WANTED—3:30 p.m. to 12 midnight. From Lemon Grove to Plant 1. J. D. Matthews, home phone, JU-3-0993, or plant ext. 2911.

Personals

CONVAIR

To all our Convair friends—Your kind expression of sympathy is deeply appreciated and gratefully acknowledged.

Mrs. Arthur Reiser and family.

Monthly Phone Cost at Convair Cut by $6,000

Cost of telephone equipment at General Dynamics/Convair has been cut by at least $6,000 a month as a result of a direct drive, started this spring, to reduce utility expenses.

Altogether, 258 lines and 662 instruments have been eliminated at Plant 1 and Rose Canyon facilities. Total savings by the first of this month were $32,765.

Resources Economics, cost reduction center which has been responsible for the project, began the division-wide survey to provide the best service at the least expense in March. Pacific Telephone Co. engineers advised throughout.

First month saw 50 lines and 250 instruments removed, at an average saving of $12.50 per instrument.

By the middle of last month, phone equipment in every area of the division had been inspected and evaluated under direction of G. C. Armstrong, facilities engineer. From now on, constant surveillance will be carried on to be sure that present service is effective and current savings maintained. Any time new service is requested, it will be analyzed for real need before it is approved.

"We are pleased with the result of our concerted effort to reduce unnecessary equipment," said R. M. Hatcher, director of industrial engineering. "By such coordination we can control and constantly check overhead expenses in many different areas."

CRA WILL PAY PART OF NET ENTRY FEE

Tennis enthusiasts at GD/Convair and GD/Electronics may enter the coming Industrial Tennis Championships at half-price through CRA arrangements, said Pete Beyrer, commissioner.

CRA will pay half the entry fees, $1.50 for singles, $2 per team for doubles, for all GD/Convair and GD/Electronics men who sign for the IRC tourney. Dates are Sept. 22-23, 29-30 at Morley Field, Balboa Park.

Trophies will go to winners and runners-up in singles and doubles and to consolation singles winner.

Beyrer will accept entries, accompanied by fees from now until Sept. 17 at CRA headquarters, Bldg. 32, Plant 1.

College Featuring Aircraft Courses

Six aircraft courses, two instructed by GD/Convair men, are open to General Dynamics people at San Diego City College this semester, with classes beginning this week.

Don Maxion of customer service will teach a class in Jet Aircraft Systems, and J. B. Van Houten of production flight is instructor of Flight Operations.

Other courses include FAA Pilots Ground Instruction, Aircraft Electronics for Airframe and Powerplant Mechanics, Airframe Mechanics, and Aircraft Powerplant Mechanics.

General Dynamics NEWS

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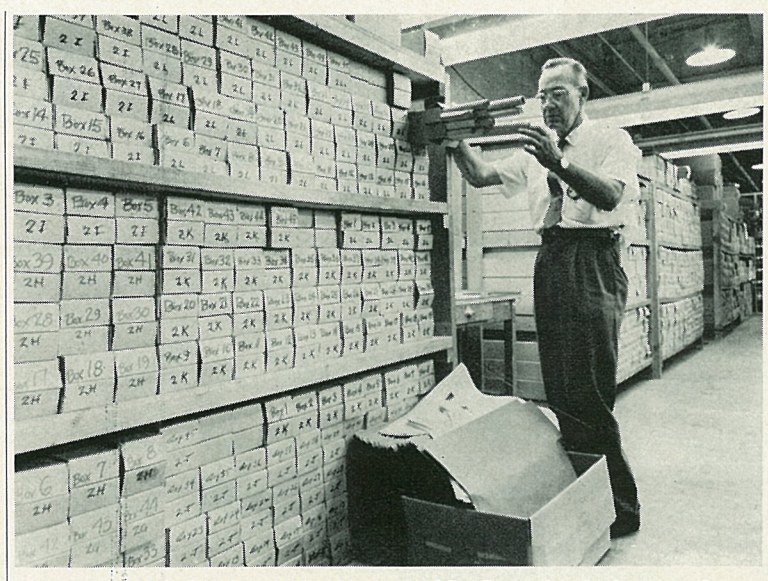
GD/Electronics (San Diego) news contact: Betty Freeby, CY-8-4641, ext. 1377, Plant 1, Bldg. 51.

Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 8-7311, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: Glenn Kehr, editor; Carol Sowers. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

* * *

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KEEPER OF FILES—J. B. Harter, GD/Convair design engineer, searches out twin-engine craft details from drawings now gathered together in Bldg. 5 high bay area at Plant 1.

Two-Engine Drawings, Records Consolidated

"What fabric was used in a Convair 240 built for Indonesian Airlines 12 years ago?"

J. B. Harter, GD/Convair design engineer, can pull the answer to this query, and many others like it, out of his bag of tricks. Harter, a 20-year veteran in engineering, has appropriately earned the title of "keeper of all twin-engine information."

Through his efforts, and a recently-approved CIP, all drawings and records of every Convair-built two-engine plane, from the first 240 to the last 440, have been gathered together in a central location at Plant 1 in San Diego.

Harter began, years ago, to gather and keep track of anything pertaining to a twin-engine transport, or its military version. He knew where the information could be found, but it was widely scattered — stored in archives, Bldg. 51, Bldg. 18.

Now, he has it at his fingertips—in the high bay area of Bldg. 5, where vellums are being filed in neat rows and cabinets. When final sorting is complete, he will have all 240, 340, 440, T-29, C-131, R4Y material in systematic order. Material includes thousands of engineering drawings, engineering releases, aircraft change authorizations, incorporated engineering orders, advanced bills of materials, vendors drawings of parts.

Twin-engine roll-size vellums alone occupy 1,620 boxes, with 12 to a box. These vary in size from 5 feet to 20 feet long. Smaller sizes are kept in flat files.

Now, Harter can locate information quickly to supply spare parts with a description of Convair-Liner parts needing replacement, or to find the answer for customer service to such questions as "what was the CAA (forerunner of FAA) approval of the aft facing seats in the 52-passenger version of the SAS 440?"

Another recent problem he was able to work out was how to install a 340 stairway on a 240, now owned by Mohawk Airlines, originally built for American Airlines and modified for KLM. Harter made the changes on the original drawing to provide for the 340 stairway fittings.

He redraws vellums which have become worn out or mislaid from original blueprints.

Also kept in the high bay area, which is under the supervision of blueprint reproduction, are vellums, engineering orders, and aircraft change authorizations for F-102s and F-106s.

Joyce Hartley of Dept. 16-7 mans the area a couple of hours each morning to fill reproduction requests from central files, otherwise, under a smooth working agreement with reproduction section, Harter has access at all times to search out the answers to any questions needing prompt attention.

Sparrows Using Drinking Fountains

A pair of "earth-bound" birds, which moved along with Astro missile people into third floor of Bldg. 51 at GD/Convair Plant 1 this spring, have defied all grounding attempts.

Two sparrows call the area home—flitting over partitions, drinking out of fountains, and feeding on lunch crumbs. It is thought they flew in through openings during installation of equipment.

So far, they have eluded efforts of company firemen and guards trying to shoo them outdoors.

Patchel Appointed GD/E Mfg. Manager

H. O. Patchel was named manager of manufacturing for General Dynamics/Electronics division at San Diego, effective Aug. 27.

Patchel, who has served as manager of production control since he joined GD/Electronics a year ago, will report to J. H. Thompson, manager of operations. He will continue to handle production control responsibilities in his new position.

A native of New Jersey, Patchel had been manager of the Daystrom Instrument Division in Pennsylvania from 1951 to 1955; work manager of Rheem Manufacturing Co., Philadelphia, Pa.; and vice president and general manager of The Babb Co., Inc., Phoenix, Ariz., for several years.

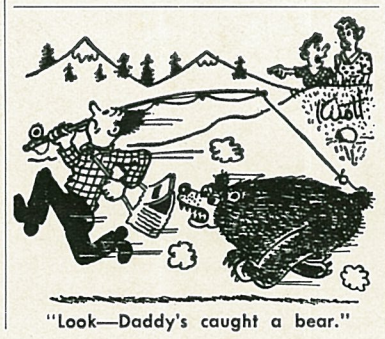
He was with the AiResearch Manufacturing Co. in Phoenix before coming to GD/Electronics in August of 1961.

Morey to Supervise Wing Replacement

A General Dynamics/Convair final assembly supervisor, John R. Morey, flew to Europe last week to supervise installation of the Convair 440 wing box section, shipped in mid-August by cargo ship from San Diego plant to replace one damaged by fire (**General Dynamics NEWS**, Aug. 15).

Morey will direct a ground crew of the Yugoslovenski Aerotransport in mating the new wing to one of the airline's Convair 440 transports. It will take two or three months, he estimated, to exchange all the fittings and install wing flaps, tips, trailing and leading edges. Work will be done at the Zeeman Airport, outside of Belgrade.

This was the first Convair-Liner wing sent to a customer since the first Convair 240 was delivered, over 14 years ago.



"Look—Daddy's caught a bear."

Time Remains To Sign For Fall Classes

There is still time to register for in-plant classes starting this week for GD/Convair and GD/Electronics men and women, said Wayne Turner, educational services coordinator. (Classes are also open to GD/Astro people based in Plants 1 and 2.)

Up until last week, 175 students had enrolled in the courses offered through the fall semester in cooperation with San Diego City College.

And one course, basic technical writing, is proving so popular that the evening section has been split into two classes. Now, Technical Writing I will be held both Monday and Tuesday evenings, 4:30-7:30 p.m., in Classroom 3 on the ground floor of Bldg. 19. F. M. Linderman of Ryan Aeronautical Co. will conduct both.

An additional technical writing course, Technical Wrting II (Intermediate), has been added to the schedule. Louie Henderson of GD/Convair service publications will teach this course on Mondays, 4:30-7:30 p.m., in Room 7 of Bldg. 14, Plant 1.

Information on other courses and enrollment is handled through Turner, at ext. 491, Plant 1.

Sports Car Ignition System Described

Description of a transistor unit developed by Charles A. Dreher, GD/Convair design engineer, was carried in the August issue of Porsche Panorama, official publication of the Porsche Club of America.

Dreher's article was carried as a portion of the special report on "Transistorized Ignition Systems" for sports and pleasure cars. His two-transistor unit was tested for 10,000 miles in his own 1961 1600 Super hard-top Porsche and proved that it can maintain constant voltage, allowing more acceleration at higher speeds.

Dreher has been interested in sports cars for several years and is presently a member of the San Diego Region of the Porsche Club of America. He is an engineer with the electronic systems design section at GD/Convair.

Model Railroaders Honor Karl Busch

Karl Busch of GD/Convair Dept. 16 was cited for his two years as editor of the National Model Railroad Association publication at the national convention held last month in Montreal, Quebec.

Busch received the only presidential award given this year. In his present capacity as national contest committee chairman, he was in charge of the model construction contest at the annual convention, Aug. 16-19, in the Canadian city.

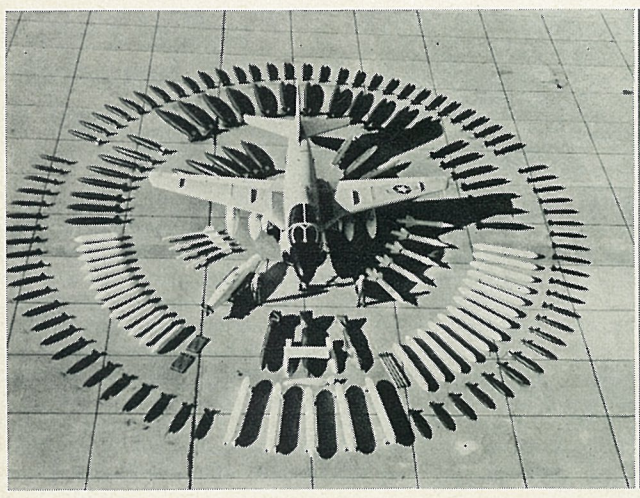
Highlight of the convention, attended by 710 modelers, was a trip by steam-powered train to Joliette, French-speaking town north of Montreal, which turned out to entertain in royal fashion.

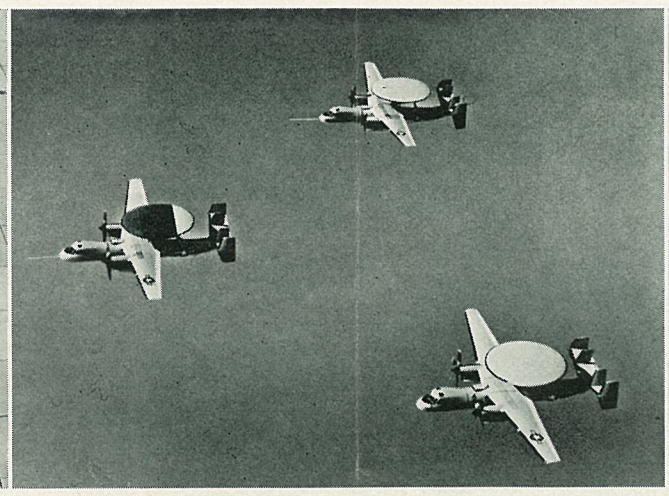
Rockhound Shack Resumes Activity

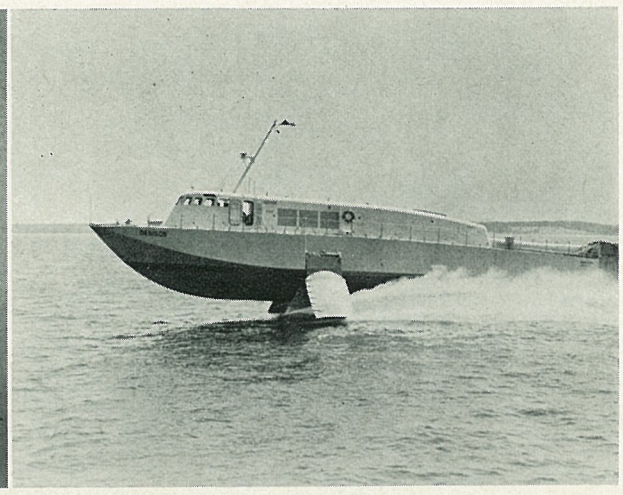
CRA Rockhounds will be back in business this month after a two-month vacation period.

The Rockhound Shack across from Plant 1 on Pacific Hwy. reopened Tuesdays and Wednesdays, starting Sept. 11 and 12, at 7 to 9 p.m. Regular meeting schedule will begin on the second Thursday of each month, 7:30 p.m., at Gillespie Field Clubhouse.

Dan Whorton, CRA commissioner, and George Goetzelman, club president, join in thanking members who cleaned the Rockhound Shack to make it presentable for another year of rock polishing.







PARTNER'S PRODUCTS—Grumman Aircraft Engineering Corporation, partner with General Dynamics/Fort Worth in seeking TFX bi-service fighter contract, is long-time Navy manufacturer. Widely known and respected as builder of World War II Wildcats, Hellcats and Avengers, above are some of more recent products such as, left, A2F Intruder, Navy attack aircraft, shown with impressive armament, and in center W2F Hawkeye, carrier-based airborne early warning and intercept control aircraft. Grumman also has pioneered in hydrofoils. At right is first open-ocean hydrofoil vessel which has attained speeds of more than 70 mph.

Grumman Adding Navy 'Know How' To TFX Contest

A decision is expected late next month in the sharply contested competition to determine manufacturer of the new bi-service fighter plane called TFX, recently designated as the F-111A.

In the contest, General Dynamics/Fort Worth is in partnership with Grumman Aircraft Engineering Corporation of Bethpage, Long Island, N.Y., distinguished builder of aircraft for the U. S. Navy for many years. As the basic aircraft is expected to meet requirements of both the U. S. Navy and the U. S. Air Force, the combination of GD/Fort Worth (with its long background of Air Force service) and Grumman (with its long Navy experience) is a fitting one.

In its 33-year history, Grumman has probably built more carrier-based aircraft than any other manufacturer in the world. Since its founding in 1929, Grumman has produced more than 25,000 aircraft ranging from fighters to reconnaissance, patrol and attack types.

★ ★ ★

"The name Grumman on a plane is like Sterling on silver," Admiral John McCain, fighting carrier admiral of World War II, once remarked in paying tribute to the rugged fighters that accounted for two-thirds of Japanese aircraft destroyed in the Pacific theater.

"Grumman planes saved Guadalcanal," James Forrestal said when Secretary of the Navy.

There were three main reasons for these strong endorsements—the F4F Wildcat, its successor, the F6F Hellcat, and the carrier-based heavy attack torpedo bomber, the TBF Avenger. They became famous not only for fighting qualities but for ability to carry pilots back to the carrier despite heavy structural damage. Bullet-riddled Hellcats and Avengers seemed to somehow get back home and Navy pilots dubbed the manufacturer, the "Grumman Boilerworks." Another admiral once said simply, "Thank God for Grumman."

★ ★ ★

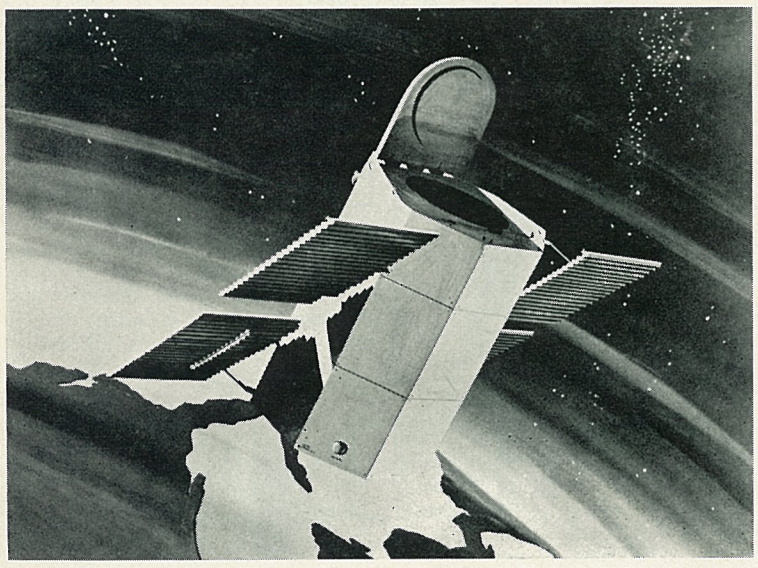
Space and Speedy Ocean Transportation Among Grumman Fields of Research

Although Grumman's principal business is still in the design and production of aircraft, the company has expanded rapidly in the two areas of space and ocean transportation.

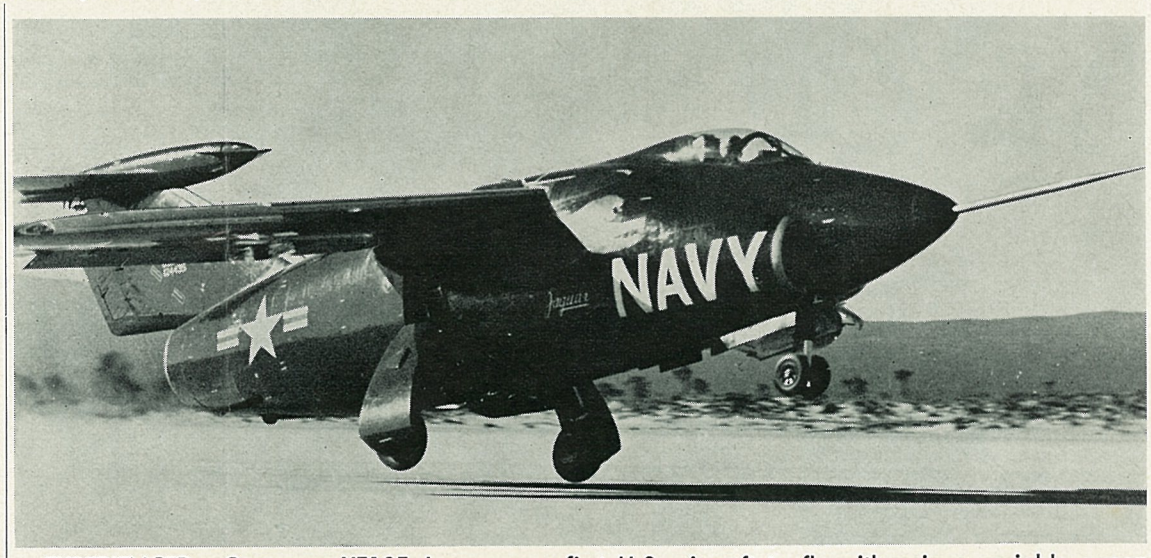
At the company's Bethpage plants, the country's largest unmanned satellite is undergoing construction for the National Aeronautics and Space Administration. This is the Orbiting Astronomical Observatory (OAO) which will be launched early in 1964. Other space age projects include considerable work in the areas of lunar exploration, plasma physics, fluid mechanics, hypersonics as well as in space vehicle and missile design.

In ocean transportation, the company has designed and constructed the revolutionary Denison hydrofoil craft. This is the 90-ton, 104-foot-long, hydrofoil vessel which demonstrated speeds in excess of 70 mph on Long Island Sound this summer. Later this year the Denison will demonstrate high speeds at sea as the free world's first open-ocean hydrofoil craft. Ultimately the Denison will be operated as a commercial craft between Fort Lauderdale, Florida and Nassau.

In the military application of hydrofoils, the Grumman company has gone from the design stage into the start of production on a 300-ton, 200-foot-long, hydrofoil destroyer for the U. S. Navy. Designated the AGEH, this craft will be the forerunner of a brand new concept in anti-submarine warfare.



IN SPACE, TOO—Grumman engineers have been active in space efforts as well as aircraft. Above is artist's conception of "Orbiting Astronomical Laboratory" developed for Goddard Space Flight Center of NASA. It will be launched in 1964.



EXPERIENCED—Grumman XF10F Jaguar was first U.S. aircraft to fly with unique variable sweep wing. Experience gained in this field makes Grumman an invaluable partner in TFX competition which has similar requirements.

Grumman followed the Hellcats with the Navy's first carrier-based jet fighter, the straight-wing F9F-5 Panther (which accounted for 15 MIGs in Korea without a loss) and the F9F-6 Cougar. In 1954 came the Grumman F11F-1 Tiger, followed by the design of the Mach 2 plus F11F-1F Super Tiger.

One Grumman fighter plane which did not enter production—although the prototype did fly—was the advanced design XF10F Jaguar. Started in 1952 the XF10 Jaguar was at least 10 years ahead of its time. This fact was due to the aircraft having a variable sweep wing or variable geometry. This design allowed the aircraft to attain high and low speed characteristics at the pilot's will. The wing of the XF10F was used by the pilot almost like a throttle so that with the wing in the swept position the aircraft's highest speed was obtained. With the wing in the straight or conventional position, slow speeds for landing and loitering at altitudes were obtained.

Although the Jaguar failed to go into production, the Grumman company obtained invaluable experience from flying this aircraft which has been applied in the forthcoming swept-wing design TFX fighter. The XF10F Jaguar was one of the two variable swept-wing aircraft ever flown.

In the early 1950's Grumman accelerated research and product improvement programs on "special mission" aircraft not easily replaced by rockets, missiles or satellites. Today, the company has seven aircraft in production. These include: the versatile SA16 Albatross amphibian which recently was configured for a role in anti-submarine warfare; the S2F-3 standard carrier-based anti-submarine warfare hunter/killer; the W2F Hawkeye airborne early warning aircraft which is a veritable flying brain providing fleet units with immediate information of attack and directs the interception of attacking aircraft.

Other special mission aircraft in production include the AO-1 Mohawk, an Army electronic surveillance and observation aircraft and the A2F-1 Intruder, a two-place, all weather, attack aircraft which can fly great distances to deliver nuclear weapons or provide close ground support for tactical troops with conventional weapons.

Grumman's Founders Continuing Firm's Early Pioneering Spirit

Of the six original founders of Grumman, five still head the company.

Among them are Leroy Grumman, Chairman of the Board, E. Clinton Towl, president, and William T. Schwendler, Chairman of the Executive Committee.

Initial project of the company when founded in 1929 was repair of Loening Airplane Company's floats. However, ex-Navy pilot Grumman soon designed an amphibian float gear with retractable wheels for Navy planes and from this Grumman decided to build a fighter with retractable gear. While experts scoffed that the added weight would slow down the plane, Grumman persisted with the FF-1. It caused a sensation and was faster than any plane of its type in the world.

While technology has changed considerably since 1929, company management continues to be marked by pioneering spirit.



TWO HEADS—Paul Anbro, right, Grumman TFX project engineer, discusses A2F (Grumman experimental jet attack plane) with W. C. Dietz, GD/Fort Worth chief engineer on TFX project.

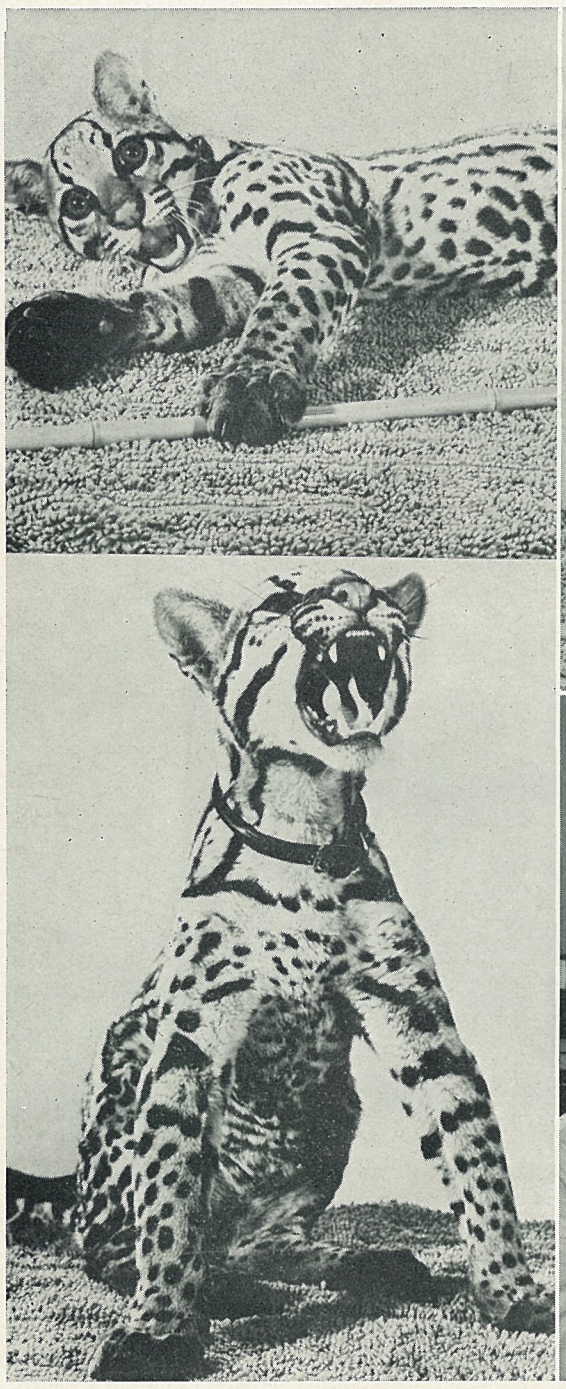
Convair Jet Used For Transocean Call From TWA President to Lord Mabane

A Convair 880 jetliner was base of operations for the first transoceanic telephone call from an airplane relayed by the Telstar communications satellite late last month.

The president of Trans World Airlines, Charles C. Tillinghast Jr., placed the call Aug. 29 from a Convair 880 flying over New York. The call was received in London by Lord William Mabane, chairman of the British Travel Association.

The call went from the airliner to a New York ground station, then to the Andover, Me., transmitting station. It was relayed from there to the Telstar satellite on its 461st pass over the United States and returned to earth at the Goonhilly Station in southwest England, and then on to London.

TWA has been experimenting with public telephone service from its 880s on Chicago, St. Louis, and New York flights **(General Dynamics NEWS, Aug. 15).**



NICE KITTY—"Josh" is a 30-pound ocelot from Peru that belongs to Sara Morehouse, GD/Pomona secretary. Sara, left, is showing photos of her pet to Jackie Rhodes and Ann Gueldner. Josh eats canned cat food, and prefers celery with every meal.

Rain, Rain, Rain

Water-Logged Air Explorers Brave Rapids of Rogue River

Rain, rain, and more rain poured down on 35 teen-agers and advisers of Air Explorer Squadron 340 fighting their way down the turbulent waters of Rogue River last month.

The water-logged voyagers happily dumped soaked gear and headed for hot showers and dry beds when they reached their San Diego homes Aug. 17 after the roughest river trip they have faced so far.

Overturned boats, lost equipment, wet camps was the story throughout most of the seven-day adventure which took the Explorers down the 90 miles of boiling water from Grant's Pass, Ore., to the Pacific Ocean.

"It was a rough trip," summed up Gene Boyd of GD/Convair, Squadron adviser. "But no one would have enjoyed it if it had been a 'milk run.' The misery is soon forgotten, but the experience never will be."

Spirit of the boys was personified in exclamation of one young lad, after being hauled across the rapids on lines when his rubber boat was upset, "That was fun. Let's do it again!"

The boys packed like sardines into abandoned miners' cabins along the shore, when they could find them, searching some kind of refuge from the constant downpour, hanging hammocks from rafters, sleeping under broken floorboards. But most of the time they traveled and camped in the rain until they neared the ocean and came into sunnier skies.

This was the third time—first in the rain—that the Rogue River trip has been undertaken by members of the GD/Convair Management Club-sponsored Squadron. Last year the annual rough outing, designed to make men out of boys, was across rugged High Sierra ranges on foot.



ON THE ROGUE — Despite rains, GD/Convair Mgt. Club Air Explorers reported great fun taming Rogue River. In second photo from bottom are trip leaders, Gene Boyd, Nate Wells, Jim Megargee, John Clemenshaw, Andy Drollinger.

IT'S 'ARMY MISSILE COMMAND' NOW

The Army Ordnance Missile Command recently underwent a name change. It became the Army Missile Command — without the "O."

"Ordnance" has been dropped from the command's name under an Army-wide reorganization. The Ordnance Corps was one of the Technical Services absorbed by the new Army Material Command (AMC) commanded by Lt. Gen. Frank S. Besson Jr.

Redeye, an infrared surface-to-air guided missile system, and Mauler, a compact, highly mobile guided missile system, are being developed at General Dynamics/Pomona under the management of the Army Missile Command at Redstone Arsenal, Ala.

Secretaries Signing For Annual Review

Secretaries at General Dynamics locations in San Diego must sign by Sept. 17 if they plan to enroll in the annual Certified Professional Secretary Review Institute.

The Institute will be held from Oct. 1 through April 22 at Union Title, 220 A St. It is sponsored by San Diego State College in cooperation with local chapters of the National Secretaries Association.

For information call JU-2-4411, ext. 471.

Phone Tape Recording Service Made Available at GD/FW

It's now possible to have your long-distance call taped and played back to you in a matter of minutes at GD/Fort Worth.

"All you have to do is request this service from the PBX operator on incoming or outgoing long-distance calls," said J. H. Howell, communications assistant supervisor.

The conversation will be recorded on magnetic tape and delivered—along with a portable recorder—according to instructions given the operator.

"Ordinarily, we should be able to deliver the tape and recorder in from 15 minutes to an hour," Howell said, "depending on the work load."

Howell reminded that regular "beep tones" will be included in the recording. It's a federal regulation.

Though normally used for individual conversations, the system can accommodate a "conference" of up to eight people.

"One of the first uses of the new system was a conference between three GD/Fort Worth engineers and a vendor representative in St. Louis," Howell said.

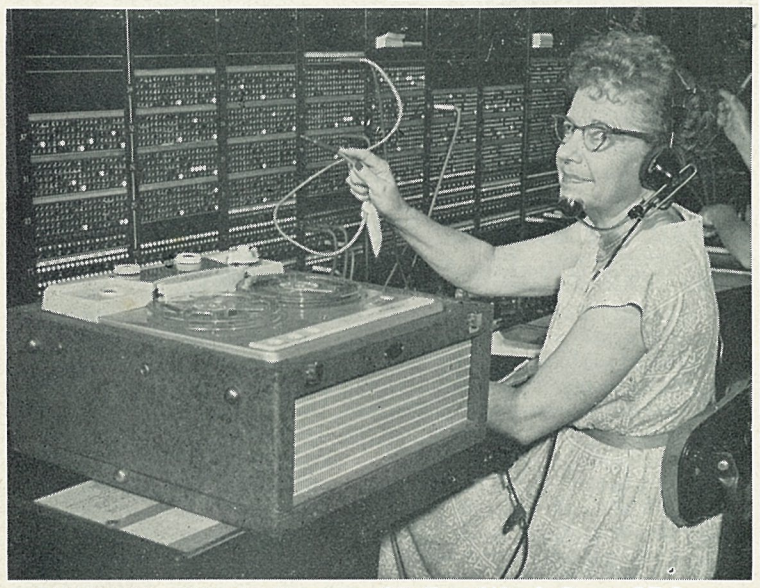
The recorder is intended primarily for long-distance calls.

"However," Howell said, "it's possible to record an in-plant call by placing your call through the PBX operator. This is done by dialing "O" and asking for the desired extension."

Any questions concerning the system should be forwarded to either Howell or the chief telephone operator at ext. 3114.

POMONA'S WEED TO PRESENT PAPER

E. I. Weed of General Dynamics/Pomona's Dept. 6 will present a paper entitled "Improved field performance of magnesium through education" at the 18th annual convention of the Magnesium Association, Oct. 22-24 in Los Angeles.



PLAYBACK—Winnie Mowrey, GD/Fort Worth Dept. 17-1 operator, plugs in recorder when tape is requested on long-distance call. Tape is delivered later to caller, for reference.

Playful

Ocelot Kitten Weighs 30 Lbs.

Sara Morehouse, attractive new secretary in Dept. 7, General Dynamics/Pomona, owns an unusual pet — an ocelot named "Josh."

Still considered a kitten, the year-and-a-half old animal weighs 30 pounds and is four feet long. He will weigh between 40 and 50 pounds when full grown, Sara said.

Josh lives in a cage eight feet wide and 20 feet long, in the backyard of Sara's home in Pomona. He eats a large can of cat food morning and evening, wants celery at every meal and likes raw chicken for dessert.

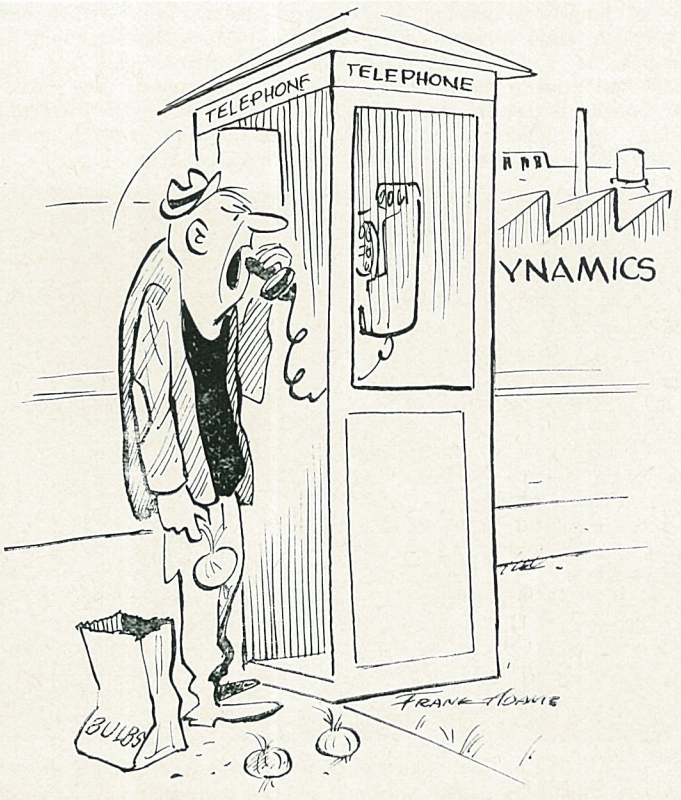
He has his own private soy bean tree for climbing and swims in a wash tub kept in his cage. He has recently learned to open his cage, so now it must be closed with a lock instead of tied with a rope.

Josh is quite affectionate but does not like men. He will romp in the yard with Sara when she lets him out of the cage and used to go over the fence to play with a Boxer dog formerly owned by neighbors. (His idea of play is to chase the other animal all around the yard.) The three domestic cats owned by Sara's family all run when the ocelot is let out.

Four Attend Course In Use of Computer

Four GD/Convair men attended a Manufacturing Management course in use of highly-refined computers and their value in solving management problems at the IBM Education Center, San Jose, Calif., Aug. 13-17.

Representing the division at the customer executive program were R. C. Hartwig, manager of systems and procedures and data processing; A. E. Andress, chief of data processing; W. H. Parry, general purchasing agent; and John Richmond, chief of material costs and budgets.



"Now think for a minute! Are you sure you didn't plant a half dozen peanut butter sandwiches along the driveway?"

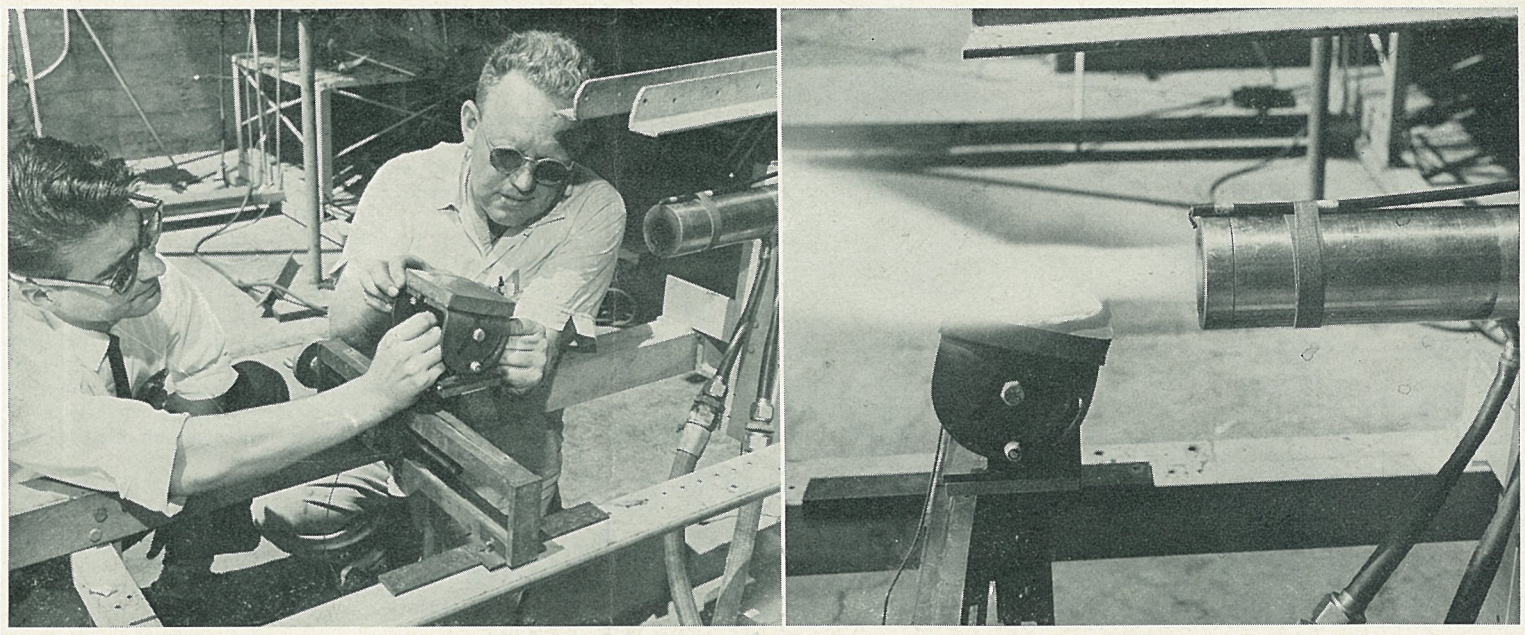
Institute to Hear Wilkens and White As Panel Speakers

D. C. Wilkens Jr. of GD/Convair and D. D. White of GD/Astronautics will be among speakers during the Middle Management Institute sponsored by University of California Extension in San Diego this fall.

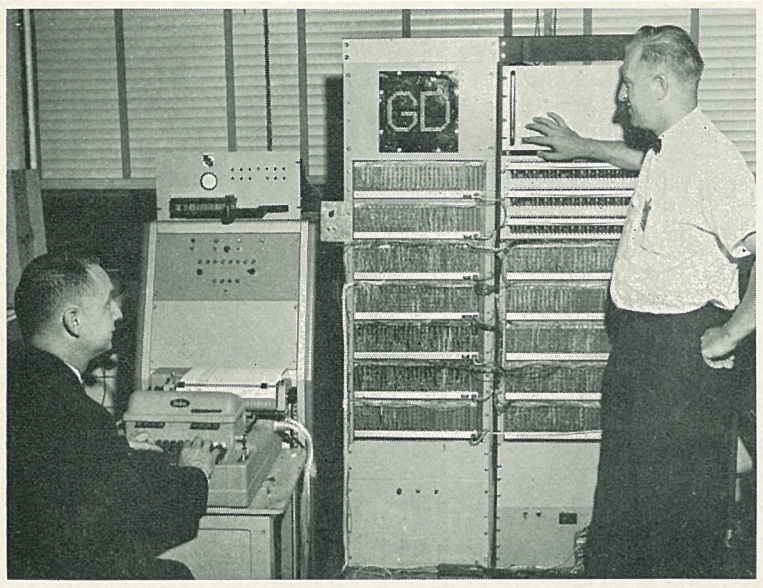
Wilkens, director of industrial relations at GD/Convair, will be a member of the panel on new approaches to resolving labor-management differences.

White, administrator of the PACE program at GD/Astro, will conduct workshops during the sessions on "Leadership and Employee Development," and "Management of Differences."

Enrollment for the Institute, which runs for five alternate weekends between Oct. 19 and Dec. 15, may be made through the Extension Office, BE-2-7321.



HOT BLAST—At left, Doug Suttie of GD/Convair thermodynamics and Virgil Schade, Dept. 31 mechanic, position material specimen on mount at ramp test stand before blast-off (right) of rocket engine scorches it, simulating temperatures to 5,000 degrees F.



EDUCATED MACHINE—Robert Atkins, right, and William L. McDermid, seated, of GD/Electronics at Rochester, inspect "APPECS" equipment that knows how to read.

Mail Sorting Possible With 'Reading Machine'

Johnny may or may not be able to read, but "APPECS" decidedly can.

Conceived by engineers at General Dynamics / Electronics in Rochester, APPECS (for Adaptive Pattern Perceiving Electronic Computer System) can recognize all letters of the English alphabet and digits as well.

Although the system is still in its development stage, GD/E engineers think that APPECS might be used for such tasks as sorting mail, indexing documents and helping in other ways to process the mountain of paper work generated by industry and government.

Like Johnny, APPECS can be taught. It developed its present pattern perceiving ability when it was "shown" the letters of the alphabet and repeatedly told what they were in electronic language.

APPECS' memory—a whirling 40-track magnetic disc—is excellent, if somewhat fragile. At one point when its developers had made considerable progress in teaching it the alphabet, a minor component in the power supply failed. The magnetic disc was erased and APPECS' memory went completely blank. The engineers then built electronic circuitry to protect the system against such attacks of amnesia.

In its present state, APPECS "sees" letters and figures through a pegboard arrangement of 256 electrical contacts. Its teachers feed it instructions through a conventional teletypewriter keyboard using a binary code in which letters and numerals are represented by 8-digit combinations of zeroes and ones. APPECS recites its lessons in the same code, which must then be converted.

GD/E is developing two devices to eliminate these limitations on the system's perception. One is a photoelectric scanner, to replace the electrical contact pegboard, which will enable APPECS to read printed material. The other is a code converter which will translate the system's output into regular alphabetical form.

Tests are also being made with the division's Speech Analysis Group to determine if the system can be taught to respond to spoken commands. In this phase of the program, speech is "digitized," i.e., spoken words are reduced to various combinations of numbers by using measurable characteristics of speech. Thus far, APPECS has demonstrated an ability to recognize these combinations. The next step is to determine which sounds should be digitized so that APPECS can best perceive them.



"Well, this provides Mabel with a steady source of revenue."

Evans to Conduct Purchasing Class

William G. Evans, General Dynamics Corporation director of procurement, will conduct a specialized business education course in industrial purchasing at San Diego Evening College this fall.

Course content will consider the various aspects of industrial purchasing, including vendor relationships, value analysis, bidding procedures, and types of contracts and buying technique.

According to Evans, the course should be of interest not only to persons directly involved in purchasing functions, but to all who represent the contractor, whether in marketing, engineering, contract administration, sub-contract placement.

Classes meet Monday evenings from 6:30 to 9:30 p.m. First session will be Sept. 17.

Samples Roasted in Search For Best Protective Coating

Squares of rubber-based materials are being toasted like marshmallows in bursts of flame at General Dynamics/Convair's rocket test cell to see which will provide greatest protection for the base of the Little Joe II vehicle and its launcher during actual firing.

Thermodynamics engineers are simulating, as nearly as possible, conditions anticipated during launching of full-scale rocket engines — exhaust temperatures up to 5,000 degrees Fahrenheit, exhaust velocities to 7,500 feet per second.

The samples of rubberized materials, all supplied by outside vendors as proposed coatings for the steel launcher structure to protect it from extreme heat of rocket exhaust, are submitted to the critical conditions just a little over a second at a time.

In that flash of time, exhaust jet from a 150-lb. thrust rocket engine using liquid propellant, a combination of RP-1/gaseous oxygen, can completely destroy some of the materials. Other of the samples simply are charred on top, with material beneath undamaged.

This protective coating will protect the aluminum alloy used in construction of the Little Joe II base from extreme temperatures generated by exhaust jet, explained J. B. Hurt, GD/Convair project manager. It will keep the structure at temperatures near 250 degrees F., and eliminate the necessity of using exotic, expensive materials, such as titanium or high-temperature steels.

Also, its use allows GD/Convair to meet the customer's requirements for a launcher which will endure two years, with repeated use.

Following test runs in the material test stand at the ramp and evaluations by thermodynamics engineers in charge, results will be passed on to Little Joe II design engineers for final decision, said Dick Sergeant, senior thermodynamics engineer. In charge of the material test project is Doug Suttie of thermodynamics.

Crewmen of 305th Set TB-58 Record

Seven crewmen of the 305th Bomb Wing recently set a record by launching a TB-58 on six consecutive on-time takeoffs in one day.

The crew consisted of: M/Sgt. Gene B. Throop, flight chief; S/Sgt. Jack R. Austin, crew chief; S/Sgt. Walter M. Keene, assistant crew chief; A1C William G. Burns, ground crewman; A2C James C. Harris, ground crewman; A3C Eugene S. Waycaster, ground crewman; and A3C Larry Tenbrugge, ground crewman.

GD/FW Counsel Named Judge

A. C. Glaser, associate counsel at GD/Fort Worth, has been appointed Corporation Court Judge of Benbrook, Texas.

Making the appointment was Mayor L. E. Heizer, GD/Fort Worth aerosystems group engineer.

(Corporation Court Judge is similar to a Justice of the Peace elsewhere and powers include civil cases.)

Glaser joined GD/Fort Worth's legal department when it was formed last year. He holds a B. S. degree from New York University, and a law degree from Southern Methodist University.

Previously, Glaser served in the engineering administration section at Chance Vought.

He is a member of the American Bar, Texas Bar and Fort Worth Bar associations. Glaser is treasurer of Plus-Two Toastmasters Club and an amateur dog trainer.

Naval Gun From USS Rochester Will Be Used in Undersea Test

When deeper oceans are plumbed, the Marine Technology Laboratory of General Dynamics/Electronics at Rochester will be ready.

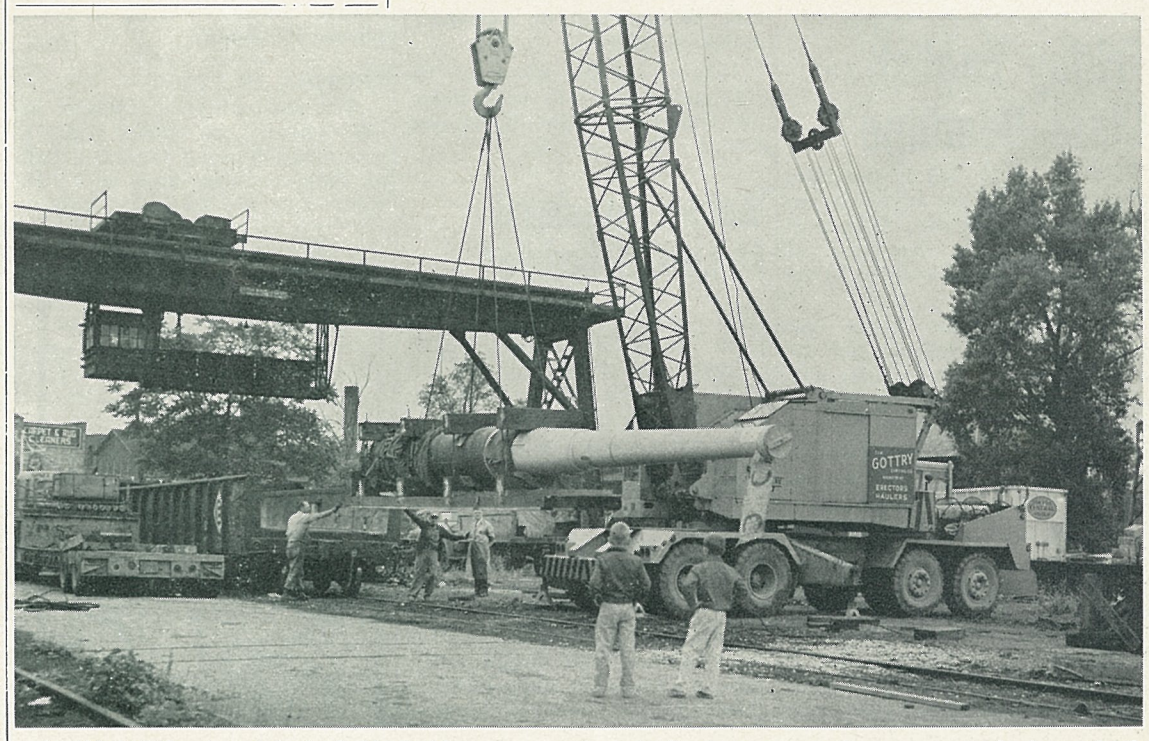
A spare 8-inch gun, which came "home" from the USS Rochester, was obtained recently by the laboratory to use as a pressure chamber that can simulate ocean depths corresponding to about eight miles. The deepest point in the ocean is believed to be about seven miles, with 99% of the oceans being less than four —about 20,000 feet deep.

John K. Liu, laboratory manager, said his group is sealing off one end of the gun barrel, and is fitting instruments and test devices into the breech mechanism. The barrel will be used to pressure-test oceanographic instrumentation, as well as hydrophones and other anti-submarine warfare devices.

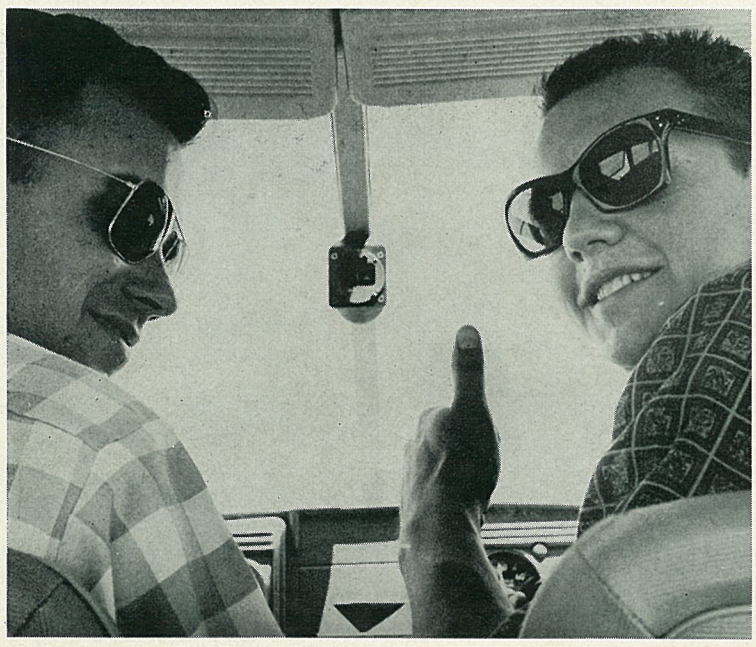
Tests will be possible at pressures as high as 20,000 pounds per square inch, which would correspond to the pressure some eight miles deep in the ocean. The 39-foot, 33-ton naval gun barrel has been set up in the basement of the sonar tank room.

The big gun originally was intended as a replacement for any of the nine 8-inch guns in the USS Rochester's three turrets, but it was never needed. The Rochester never suffered damage during its 15 years of active duty. The guns are now obsolete.

The gun was shipped to Rochester by railroad freight car and then transported to Electronics Center where it will soon begin its new "undersea" career.



NEW DUTY—An eight-inch U. S. Navy gun arrives in Rochester to take up new role in nation's defense. Gun will be used as a pressure chamber to simulate ocean's depths of up to eight miles.



FLYING TEAM—John Hykes, left, and Wayne Gustafson of GD/Pomona's Dept. 6 form flying "team." Hykes, a licensed pilot, is deaf. Gustafson acts as "ears" for team, serving as radio operator.

Gets His License

Hearing Handicap Overcome By Persistent Pomona Pilot

John Hykes, a design draftsman, is deaf, but the handicap did not stop him in his desire to fly. He has a private pilot's license, owns a new plane, and recently spent an 8-day vacation taking his wife and daughter and another GD/Pomona couple on an air tour of Canada.

Deafness is not a great handicap to a pilot, Hykes explained.

Hykes received flight instruction at Cable Airport, Upland, starting in January, 1961. "I had no difficulty in learning to fly. It's as easy as learning to drive a car, but flying takes more skill and requires lots of practice," Hykes said.

FAA issued a private pilot's license in August, 1961, with limited restrictions, "not valid for flights which require the use of radio." The restriction means that Hykes, when flying alone, is not allowed to use radio controlled airports such as Ontario International and Los Angeles International.

For this reason, Hykes sought the aid of Wayne Gustafson, technical illustrator, to be radio operator on the Canadian vacation trip. Fellow pilots taught Gustafson to operate the radio and to work with Hykes as a team.

Last Chance! Get Your $1 Circus Ducats

Over half of the 8,000 tickets reserved for General Dynamics people on "circus night" had been snatched up at ARA and CRA outlets in the first week of sales.

However, there are plenty of good seats left for tomorrow's (Sept. 13) performance of Ringling Bros. and Barnum & Bailey Circus at Westgate Park. The entire park has been reserved for General Dynamics circus-goers by GD/Convair and GD/Astro Recreation Associations.

Reduced-price tickets, $1 per person, either adults or children, will be sold, as long as they last, right up to end of shift hours tomorrow.

Tickets may be obtained at all Astro employee services outlets; at Convair employee services, Bldg. 32, Plant 1; office of Virginia Cannon, Rose Canyon; office of Juanita Jones, GD/Electronics Hancock St. facility.

Friday English Class Deadline

Friday (Sept. 14) is the final deadline for taking advantage of a home study course, "Practical English and the Command of Words," now being offered at reduced rates.

More than 1,600 Astro employees have registered for the course which normally costs $48, but is being offered for $18 to employees.

The offer is also open to all GD/Convair and GD/Electronics people.

Sign-up may be made through:

At Plant 71, R. T. Bauman (Dept. 756-0), Bldg. 5, Col. F-2; at Plant 1, R. S. Barlow (Dept. 756-0), Bldg. 18; at Plant 2, L. Rodrigues (Dept. 337-1), Bldg. 4, Room 210; at Plant 92, A! Amison (Dept. 224-0), Col. H-8; and at Sycamore Canyon, E. S. Ely (Dept. 573-5), Administration Building.

$200 Prize Tops Essay Contest

General Dynamics employees everywhere may be interested in trying for a $200 prize being offered in the Robert H. Goddard Historical Essay Award competion recently announced by the National Rocket Club.

The competition is named for Dr. Robert H. Goddard, pioneer rocket maker and engineer.

Essays may treat with any significant aspects of the historical development of rocketry and astronautics, and will be judged on their originality and scholarship. They may add new information or may cast new and different light upon events or individuals influencing rocketry and astronautics in the United States.

Only United States citizens are eligible.

Entries must be submitted by Nov. 1, 1962, to the "Goddard Historical Essay Contest," in care of National Rocket Club, 1745 K St., N.W., Washington 6, D.C. Winner will be announced in March, 1963.

Judges include some of the outstanding men in both industry and government fields concerned with rocketry.

'Autumn Weekend' At Lake Scheduled

"An Autumn Weekend at Big Bear Lake" sponsored by the joint ice skating clubs of GD/Convair and GD/Astro still has a few openings for interested employees from both divisions.

It comes off this weekend, Sept. 14, 15 and 16.

Cost per person is $11 and includes two nights' lodging at Wawona Lodge, six meals, including an outdoor barbecue dinner, swimming, dancing, hiking, etc.

Bud Davies, ARA ice skating commissioner, will accept reservations as long as space is available. Absolute deadline is noon Friday (Sept. 14). Davies may be reached at ext. 4041, Astronautics main plant.

Radio Club Cancels Tomorrow's Meeting

CRA Radio Club members will not meet tomorrow (Sept. 13). The regular meeting has been cancelled because of a date conflict, said Jim Lack, commissioner.

The session was cancelled to allow members and their families to attend the Ringling Bros. and Barnum & Bailey circus night for General Dynamics people.

Lecture Series Will Deal With Space Probing

General Dynamics scientists and engineers will be especially interested in a series of 15 lectures dealing with "Space Exploration," beginning Sept. 20 at Navy Electronics Laboratory under University of California Extension program.

Lectures will be held Thursday evenings, 7-9:30 p.m., in the NEL auditorium, Point Loma. Fee for the entire series is $50.

Donald P. LeGalley of Space Technology Laboratories, Inc., Los Angeles, will open the program with a review of scientific and technical accomplishments of Russia and the United States since the first Sputnik was launched five years ago.

His topic Sept. 20 is "The Scientific Results of Unmanned Satellites and Space Probes."

Following lectures, by the country's leading scientists in various fields, will deal with "Cosmology and Relativity," "The Environment of the Planets," "Space Nuclear Propulsion," "Astrodynamics," "Meteoroid Impact," during first half of the series.

John Hagen, assistant for advanced program planning for National Aeronautics and Space Administration, will wind up the course with a discussion of "Technological Impact of Space Exploration."

Application forms and brochures are available from the University Extension office, 1221 Fourth Ave., S.D. They will be mailed on request by mail or phone.

Horsemen Planning Overnight Outing

CRA horsemen will travel to Los Caballos Group Camp this weekend (Sept. 15-16) for an overnight outing.

The camp will open at 8 a.m. Saturday morning and riders will start on a trail ride at 9 a.m. from Earl Allen Ranch at Hulburd's Grove.

All members and friends are invited to join the CRA group, said V. V. Tomason, president of the CRA Riding Club. All attending are reminded to bring a bundle of wood for the campfire.

Jim Hill (Dept. 400-6) is taking reservations at ext. 798, Plant 1, after 4:30 p.m., or at his home phone, HO-3-6357.

SECTION MOVED

Art and editorial section at GD/Convair has moved into a new location along the main hall of Bldg. 5. New area is 5-2-H. Extensions are 2366 and 2709.



Atlas Launches Craft For Trip Past Venus

It lasted only about five minutes, but it set the course of a journey stretching 180-million miles and lasting about 109 days.

This was the role of Atlas 179-D in the Mariner 2 project.

Mariner 2, a 447-pound gold and silver plated spacecraft, is now deep in space, racing toward the planet Venus. As planned, it is expected to pass within 9,000 miles of Venus about mid-December.

Five minutes was the approximate powered flight time of Atlas 179-D in the project. During this brief period Atlas provided the guidance "brains" for the entire flight, except for a successful maneuver made last week.

This maneuver, called a midcourse correction, was planned. It was a further refinement of the trajectory on which Atlas and its Agena B stage placed Mariner 2 following an Aug. 26 launch from Cape Canaveral. Launch was from Complex 12 where Orion Reed, General Dynamics/Astronautics test conductor, and his crew performed launch operations for the Air Force and the National Aeronautics and Space Administration (NASA), which directs the program.

As programmed, Atlas 179-D put the Agena B stage into the proper altitude, velocity and attitude from which it launched the Mariner 2 spacecraft on a trajectory to overtake and intercept Venus.

Agena B, in turn, provided additional thrust toward achieving the velocity necessary for Mariner 2 to overcome the earth's gravitational field.

Two separate signals were relayed by the Atlas guidance system through its ground radio link to Agena before the two vehicles separated. They pre-set the timers which initiated both Agena's first and second burn or powered flight periods.

The flight went something like this: at 1:53 a.m. (EST) Atlas 179-D lifted its eight-ton payload off the pad and climbed vertically for about 15 seconds, then began a slow roll maneuver; after 2½ minutes of flight, boosters shut down and the booster section was jettisoned; after about five minutes sustainer shut down and vernier engines provided final velocity and attitude adjustment; about 95 miles high and some 435 miles downrange, Atlas and Agena separated as retrorockets fired to slow Atlas; Agena fired to reach parking orbit, coasting until proper position reached for second firing which carried it to proper position for separation of Mariner 2 spacecraft; Mariner 2 hurtled toward Venus, both went through midcourse correction on signals sent from earth.

If all goes well, Mariner 2 will conduct six experiments. Two instruments, infrared and microwave radiometers, will make measurements at close range as Mariner 2 passes Venus, relaying the information to earth.

Four other experiments — a magnetometer, ion chamber and particle flux detector, cosmic dust detector and solar plasma spectrometer—will gather information en route to Venus.

To scientists, the possibility of obtaining information on Venus, earth's closest neighbor, is extremely important. Despite its proximity to earth, little is known of Venus due to a cloud cover that hides it from view.

Three current theories picture Venus as (1) an arid dust bowl without moisture, (2) completely covered by water, and (3) characterized by vast oceans of oil. Recent indications have been that Venus could support life.

Mariner 2 will likely unlock some of these secrets.

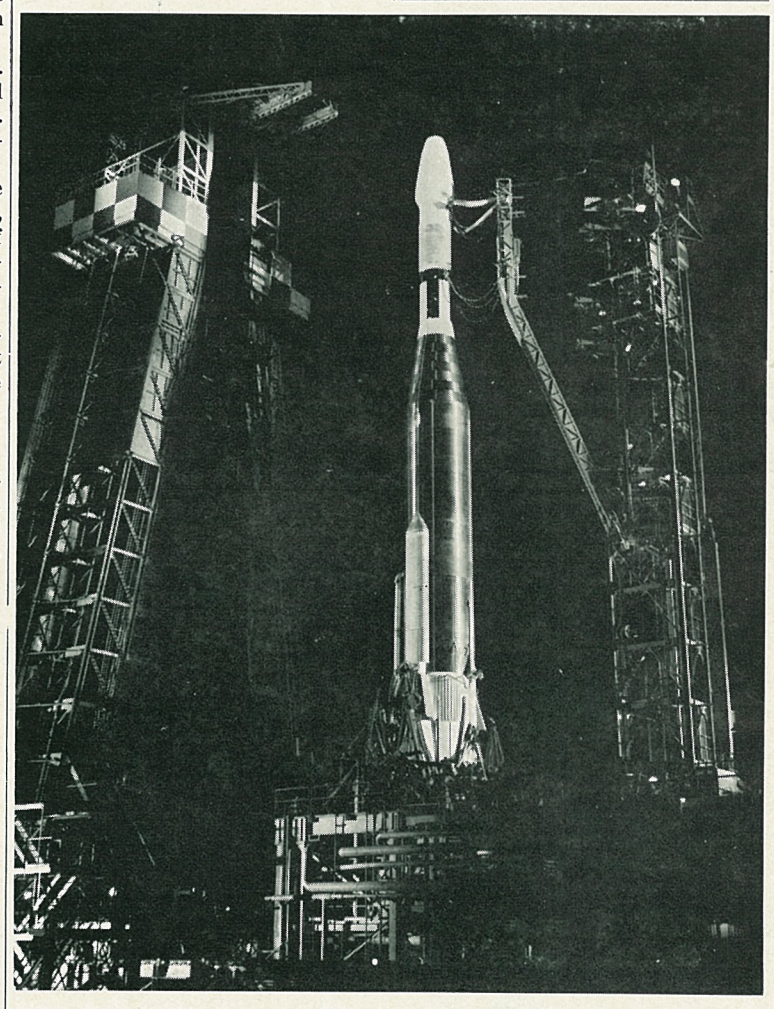
Nine-Year-Old Record Setter

Nine-year-old George Hafford Jr. (the senior Hafford is Dept. 965-3 at GD/Astro) has set up his own formula for quarter-midget racing. Establish a track record then see how many times you can break it!

In July, 1961, he piloted his little car in a qualifying lap of 8.78 seconds. This was good enough for a "stock" track record trophy.

Since that time he has cracked the record no less than a dozen times. His fastest time to date is 7.37 seconds.

Young Hafford races each Saturday night with other drivers in the 5-15 age bracket at the College Optimist track, Gillespie Field.



VENUS BOUND—Atlas 179-D, with Agena B stage and Mariner 2 spacecraft, is shown on pad at Cape Canaveral prior to launch, which was conducted by GD/Astro's Orion Reed. Mariner 2 is expected to fly within 9,000 miles of Venus sometime in mid-December.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

★ ★ ★

AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. to 1 p.m., Clairemont Mesa flying site.

ARCHERY—Saturday instruction postponed until later date.

BOWLING — For openings on winter leagues call CRA office, ext. 1245, Plant 1, or Jim Hayman, HO-6-1262, evenings. Second shifters call Frances Brooks, HO-9-8793.

BRIDGE CLUB — General Dynamics players invited to weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts.

CAMERA CLUB—Next meeting Sept. 24, 7:30 p.m., Photo Arts Bldg., Balboa Park.

COIN CLUB — Next meeting Sept. 20, 7:30 p.m., Convair cafeteria executive dining room, Pacific Hwy.

DELTA DIVERS — Meeting Sept. 18, 7:30 p.m., Convair executive dining room, Pacific Hwy.

FENCING—Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th and C Sts.

FISHING CLUB—Family potluck, Pecan Park, Sept. 18, 6 p.m.

GOLF — Annual Plant Championship play continues Sept. 15, 22 at Carlton Oaks Country Club course.

GUN CLUB — Wednesday and Friday evening practice shoots, 6:30 p.m., Gillespie Field range.

ICE SKATING—Weekend outing to Big Bear Lake this weekend (Sept. 14-16). Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission, adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next shoot Sept. 23, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—Individual instruction for amateur radio licenses offered at club meetings. Tomorrow night's meeting cancelled due to GD "circus night."

RIDING CLUB — Campout, trail ride Sept. 15-16, Los Caballos Group Camp.

ROAD RUNNERS — Meeting Sept. 20, 8 p.m., Gillespie Field Clubhouse. Border District TTCA rally, Del Mar Fairgrounds, Sept. 27-30.

ROCKHOUNDS — Rockhound Shack reopened this week for regular Tuesday and Wednesday night lapidary classes. Meetings second Thursdays, Gillespie Field Clubhouse, 7:30 p.m.

ROLLER SKATING — Next skate night Sept. 17, Skateland, Front and G Sts. Free tickets at employee services.

SOFTBALL — "Slow pitch" league games tonight (Sept. 12), Latter Day Saints fields, 47th and Ocean View Blvd.

SPORTS CAR CLUB — Eagle Eye II Economy Run Sept. 30.

SQUARE DANCING — Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

TENNIS — Entries open until Sept. 17 for Industrial Tennis Championships. See Pete Beyrer, CRA headquarters, Bldg. 32, Plant 1, ext. 1245.

WATER SKI CLUB—Regular skiing sessions Saturday mornings, 8-11 a.m., off Santa Clara Point, Mission Bay.

Dance Lesson Cost Reduced

Dance instruction is offered all General Dynamics people in San Diego at reduced rates by the Margo Pettit Dance Studio, operated by Zena Flores of GD/Convair Dept. 91-7.

Prices will be cut nearly a third for members of GD families. Regular rate of $7 a month per individual for a lesson each week is lowered to $5.

Registration for the fall series of dance classes will be this Saturday (Sept. 15), starting at 9:30 a.m. Everyone interested in any type of dancing, from tap, ballet, Spanish, to ballroom, is asked to enroll that day at the studio, 5025 Newport Ave., Ocean Beach.

There is no age limit, said Mrs. Flores. Classes will be organized for any group, from children of 3 years and up. Physical fitness courses will be offered both teenagers and adults.

Classes, one hour each week, start on Sept. 22.

Mrs. Flores, former instructor of CRA-sponsored dance classes, will give information through her home phone, BR-3-1622.

GD/E and GD/Convair Girls Register For Basic Charm Course

Women at GD/Convair and GD/Electronics, who plan to take advantage of the beginning charm course starting this month, are directed to send their applications and registration fees to Edith Antelline, instructor.

Mrs. Antelline, well-known charm school director, now is accepting enrollments mailed to her home address, 470 Pine Needles Drive, Del Mar, Calif. Checks must accompany application. Charge for the basic self-improvement course is $13.50 each.

Also, each applicant must include the name of the company and division, department number, and home telephone number.

First session of the six-week course will be Sept. 19, 7 to 9 p.m. in Room 11 of the Balboa Park Conference Bldg.

Classes in all phases of personal improvement will continue each Wednesday through Oct. 24.

"The only equipment needed is a standard-size loose leaf notebook and pencil," said Mrs. Antelline, who emphasized that everyone applying will be enrolled in the basic charm training.

Radio Club Members To Tutor Students

All potential "hams" at GD/Convair and GD/E, working toward their amateur radio licenses, may receive assistance from CRA Radio Club members, reports Commissioner Jim Lack.

This instruction, on an individual basis, is being substituted for formal code classes, originally proposed for mid-September. Lack of class registration has forced cancellation of schedules at this time.

"All GD/Convair and GD/Electronics people and their friends may get any help they need at regular club meetings," announced Lack.

Meetings are held Thursdays following **General Dynamics NEWS** distribution, 8 p.m., at the club's Harbor Drive headquarters.

For further information on CRA Radio Club's facilities and activities, call Lack at ext. 2958, Plant 1.

Golf Championship Draws 56 Players

Fifty-six GD/Convair and GD/Electronics golfers teed off last Saturday (Sept. 8) in the annual Plant Championship Golf tourney, said CRA Commissioner Ken Wulfemeyer.

Play will continue for the next two Saturdays, Sept. 15 and 22, over Carlton Oaks Country Club course.



WHOPPER — First marlin entered in GD/Convair Fishing Club contest is 129-pounder reeled in by Eileen Pegues (retiree) on 30-lb. monofilament line while fishing for albacore. She hooked 30-lb. albacore, too!

Movie Club Sponsors South China Showing

Movie and travel fans at GD/Convair and GD/Electronics are invited to the film showing, "South of China," hosted by San Diego Amateur Movie Club, according to Phillip Rapp, GD/Convair Dept. 16-1, program chairman of the group.

The two-reel film will be shown in Balboa Park Conference Bldg., Sept. 22, 8 p.m., free of charge.

"South of China," filmed in color with sound by Stan La Rue, was taken during his travels in Southeast Asia.

La Rue is well known in local amateur movie circles for his films on Guam and New Zealand, previously shown in Balboa Park.

Additional information about the showing may be obtained from Rapp at ext. 428, Plant 1.

Santa Clara Point Water Ski Mecca

"Exhilarating and refreshing" best describes the CRA Water Ski Club's regular Saturday morning (8-11) outings at Santa Clara Point, Mission Bay, reports CRA Commissioner Gene Sevigny.

The club supplies boat, skis and lifebelts to GD/Convair and GD/Electronics people and families. Club members provide instruction at each session for those who wish to learn to water ski. A nominal fee of 25 cents per tow is the only charge.

"You don't know how much fun you're missing until you water ski the first time. It's tops for a summer sport," said Sevigny.

Jack Loos at ext. 2456, Plant 1, or Sevigny, ext. 2779, Plant 1, will be glad to answer questions about CRA Water Ski Club activities.

Glasses Credited With Hole-in-One

Sid Freedman, GD/Electronics manager of design assurance, will be wearing dark glasses on the links from now on.

Freedman credits his blinders for helping him score his first ace while playing Singing Hills west course Sunday, Sept. 2.

He claims the glasses cut out the fog to give him clear vision and perfect direction! At least, the hole-in-one was well-authenticated by a trio of GD/Electronics supervision: James Thompson, manager of operations; Kent Sinclair, manager of quality assurance; and Ray Sandoval, supervisor of receiving inspection.

Sports & Recreation

Road Runners Prepare Plans For Annual Trailer Rally

Final plans for CRA Road Runners' participation in the annual Border District Travel Trailer Clubs of America rally will be rounded into shape at the Sept. 20 meeting of the GD/Convair group.

Date of the monthly business meeting has been set up a week to avoid conflict with the annual trailer gathering and to allow time for advance planning.

All Road Runners are urged to attend the Thursday evening meeting at Gillespie Field Clubhouse at 8 p.m.

They also are reminded that the Sept. 20 date is the deadline for reservations for the rally at Del Mar Fairgrounds, Sept. 27-30. All members may contact Regina Wawrzynski, club secretary, at BR-3-7417, if they intend to be present. Fee for the four-day weekend is $6.

CRA trailerites tabbed for active roles in rally arrangements, besides Ivar Peterson, co-chairman, are Joe Sopko, in charge of parking committee; Ruby Becker, who heads the committee for the Saturday night potluck dinner in Bing Crosby Hall. Elmer Becker, wagonmaster for the event, will have Bill Branch as assistant.

The Labor Day weekend outing of the GD/Convair group at Hulburd's Grove in Descanso drew a total of 75 visitors and members during the three-day camp-out. Altogether, 19 trailers stayed throughout the whole holiday weekend.

Special events saw Ed and Regina Wawrzynski and George and Lee Hurley celebrating their wedding anniversaries.

Ted Weinberg has been appointed club treasurer to replace John Simas, who has resigned.

Archery Lessons Schedule Delayed

Schedule of free archery lessons for GD/Convair and GD/Electronics has been postponed until later this fall, announced CRA Commissioner Al Phipps.

The instruction for beginners, originally announced to begin this Saturday (Sept. 15), will be reset on a regular Saturday schedule as soon as possible. For the present, instructors are not available on the weekend dates, he explained.

The CRA Archery Club will continue to hold its regular open shoots each second Sunday of the month, heading toward the big turkey shoot in November.

Fishing Club Slates Family Gathering

Members and families of the CRA Fishing Club will turn out en masse next Tuesday evening (Sept. 18) for their annual summer get-together.

They will gather that night for their yearly family potluck in Pecan Park, said CRA Commissioner Bob Menzie.

Two Unbeaten In 'Slow Pitch'

Convair Electronics and Stores & Dispatch Plant 1 kept on top of GD/Convair's high-scoring "slow pitch" softball loop through Aug. 29 play as the two leading teams beat off challengers.

Convair Electronics knocked off Hi-Lows, 15 to 9, Aug. 22, and whipped Manufacturing Control Plant 2, 8-3, on Aug. 29. Stores & Dispatch Plant 1 beat Fire Department, 6-1, Aug. 22, and trounced Hi-Lows, 14 to 5, Aug. 29, to remain in a first-place deadlock with Convair Electronics.

Accounting moved into third place by sweeping a pair, from GD/E Purchasing, 10-8, on Aug. 22 and GD/E Production Control, 19 to 15, Aug. 29.

Other action saw GD/E Production Control pick up their first victory of the second half, Aug. 22, ripping winless Manufacturing Control Plant 2, 25-10, and Fire Department outkicked GD/E Purchasing, 35 to 18, Aug. 29 to keep the buyers in a cellar tie.

Tonight's (Sept. 12) slate at Latter Day Saints fields pits Convair Electronics against Accounting and Hi-Lows vs. Fire Department in 6:30 action. Stores & Dispatch Plant 1 faces GD/E Production Control and GD/E Purchasing takes on Manufacturing Control Plant 2 in 8:15 games.

CRA Commissioner Pete Beyrer extends a welcome to all who would like to watch the league in action. There is no admission charge for spectators.

STANDINGS

	Won	Lost
Convair Electronics	4	0
Stores & Dispatch Plt 1	4	0
Accounting	3	1
Fire Department	2	2
Hi-Lows	2	2
GD/E Prod. Control	1	3
GD/E Purchasing	0	4
Mfg. Control Plant 2	0	4

Sports Car Drivers Lay Plans For Economy Run Competition

Sports car buffs are casting an eager eye on the calendar, anticipating Sept. 30 date of CRA Sports Car Club's "Eagle Eye II Economy Run."

All General Dynamics sports car drivers are welcome to join the field, with a special invitation extended to ARA Sports Car Club drivers, reported Chase Allen, rally master.

Registration will be at the Wilshire station, 3647 Rosecrans St., at 10:30 a.m. Safety checks will be made and cars weighed at the station before the 11 a.m. start. Weighing fee of 50 cents will be charged for each car.

Awards will be given in four sports car classes and two economy sedan classes, based on displacement. A sweepstakes award is planned for the best overall ton-mile performance.

Participants are reminded to bring food and supplies for the picnic to be held midway of the run.

Looking ahead, CRA Sports Car Club is laying groundwork for one of its major events of the year, "Field Day 1962."

This event, in charge of Field Marshal Bob Chillo (GD/Convair, Dept. 6), will be held at Ream Field Nov. 4 in conjunction with the Ream Field Fair. Proceeds will go to United Community Services fund drive.

In sports car parlance, a "field day" consists of a series of timed events, explained CRA Commissioner Gerry Wright. "Field Day 1962" will include a closed course time trial, slalom race and acceleration and braking test.

Last year's "Field Day" saw 15 award winners emerge from a field of 116, making it one of the most successful events in CRA Sports Car Club history, reported Wright.

'Near Perfect' Hustler Sold, Off to Bunker

Hustler No. 108—along with four other production B-58s—was Bunker AFB bound last week following single "near perfect" company and Air Force acceptance flights.

"This marks the first time we've sold off a plane after just a single flight by both company and Air Force acceptance crews," said W. H. Tidwell, assistant factory manager.

"The airplane had to be virtually operationally perfect to accomplish this feat," added Lt. Col. J. B. Thomson Jr., who skippered Air Force's 3-hour, 45-minute acceptance flight on No. 108 to the 305th Bomb Wing.

"This has been our objective ever since the program started, and thanks to splendid cooperation from GD/Fort Worth maintenance and acceptance crews, we've made it."

Thomson's crew on the Air Force acceptance flight included Maj. A. Z. Doka, navigator, and Capt. R. E. Clark Jr., DSO.

Making the 2-hour, 10-minute company acceptance flight was Earl Guthrie, pilot; Vince Kane, navigator; and Mike Keller, DSO.

First-shift maintenance crew supervisors were G. A. Rickey and R. L. Scholwinski. D. M. Webb and A. C. Steppick were their second-shift counterparts.

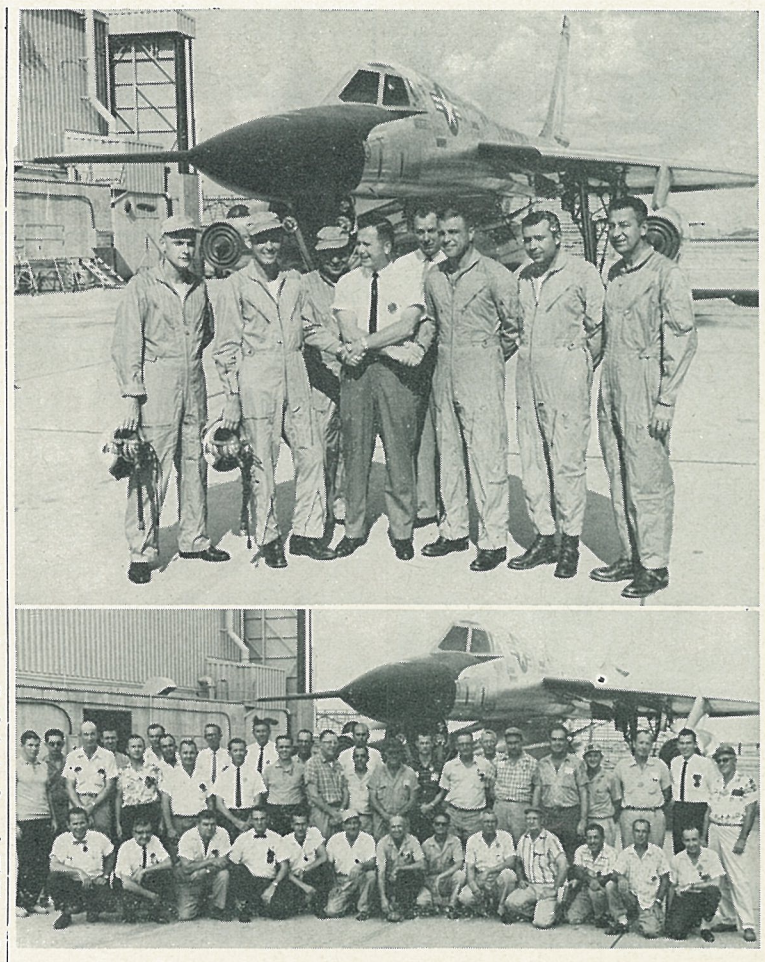
"In addition to the splendid work done by hourly people in Depts. 63 and 75, I'd like to personally congratulate the inspection people for their part in these flights," Tidwell said.

Also slated for September delivery was Hustler No. 104. Production airplanes 101, 103 and 105 were delivered to the 305th in August.

Crew on No. 101 was Maj. W. E. Brandt, Capt. W. L. Berry and 1st Lt. W. M. Bergdail. For No. 103: Capts. N. L. Williford and R. S. Sowers, and 1st Lt. R. C. Hayter.

"The overall operational efficiency of the Hustler is attested by the fact that Nos. 103, 105 and 107 were accepted following a total of only three company and Air Force flights," Tidwell said. "And we've averaged only five-plus company and Air Force flights on the last 10 production planes delivered."

Meanwhile, production planes 109 through 113 were all in company-flight status.



KEEPING 'EM FLYING—In lower photo are maintenance crews and inspectors who had hand in back-to-back company and Air Force acceptance flights on B-58 No. 108. At top, C. N. White clasps hands with flight crews, with assist from Loyd Odom. Crew included Capt. R. E. Clark Jr., Lt. Col. J. B. Thomson Jr., Maj. A. Z. Doka, Earl Guthrie, Vince Kane, Mike Keller.

Students Urged to Plan Ahead To Win Dynamics Scholarships

Sons and daughters of General Dynamics families, who will graduate from high school in 1964, are urged to plan ahead for participation in General Dynamics Merit Scholarship program.

Each year General Dynamics awards up to 12 scholarships to high-standing students, all children of Dynamics employees, who become finalists in the National Merit Scholarship Program.

Qualifying tests will be given second-semester juniors and first semester seniors at individual high schools all over the country in March of 1963. Semi-finalists are given a second examination during December of their senior year.

Tests culminate in scholarships awarded in the spring of 1964, with winners entering college in the fall of that year. Finalists whose parents are employees of General Dynamics become eligible for the 12 Dynamics scholarships.

Twenty-three scholarships have been awarded by the Corporation in the two years it has given education assists under the National Merit Scholarship Program.

Winners receive awards ranging from $250 to $1,500 per year for a four-year college course at the school of their choice. Amount of the award is determined by the amount which the family and the student can provide, and the cost of attending the chosen university or college.

Information can be obtained after opening of school from school guidance instructors or principals.

General Dynamics Specialists Chosen For Talks Before SAE

General Dynamics men from several divisions will have an active part in the Society of Automotive Engineers' annual National Aeronautic and Space Engineering and Manufacturing meeting in Los Angeles next month, Oct. 8-12.

J. H. Famme, president of GD/Convair, will act as toastmaster at the aeronautic and space awards luncheon Oct. 10 at which Maj. R. M. White, USAF, will speak on the X-15 space research program.

Other General Dynamics specialists who will act as forum chairmen, panel members, or speakers during the five-day meeting are: E. V. Russell, general foreman electronic production; N. M. Glemser, manufacturing development engineer; V. G. Mellquist, chief applied manufacturing research and processes; F. L. Unmack, senior manufacturing development engineer; C. E. Edenfield, senior structures engineer; Glenn Karel, design specialist, advanced systems; R. A. Taylor, support project engineer, all from GD/Astronautics.

GD/Convair will be represented by W. E. Wise, manager of resources engineering; C. A. Ives, chief facilities engineering; M. D. Weisinger, chief manufacturing research and development; W. J. Dewey, chief of program control; F. H. Sharp, project engineer; P. H. Selby, flight training supervisor; H. W. Callihan, chief mechanical systems design.

From GD/Pomona will be A. C. McMaster, director of quality control; G. E. Sylvester, vice president-operations; G. M. Ellis, staff engineer.

GD/Fort Worth men taking part will include W. S. Hay, manufacturing research and development coordinator; R. W. Carson, supervisor data processing systems; B. E. Chitwood, materials and processes design engineer.

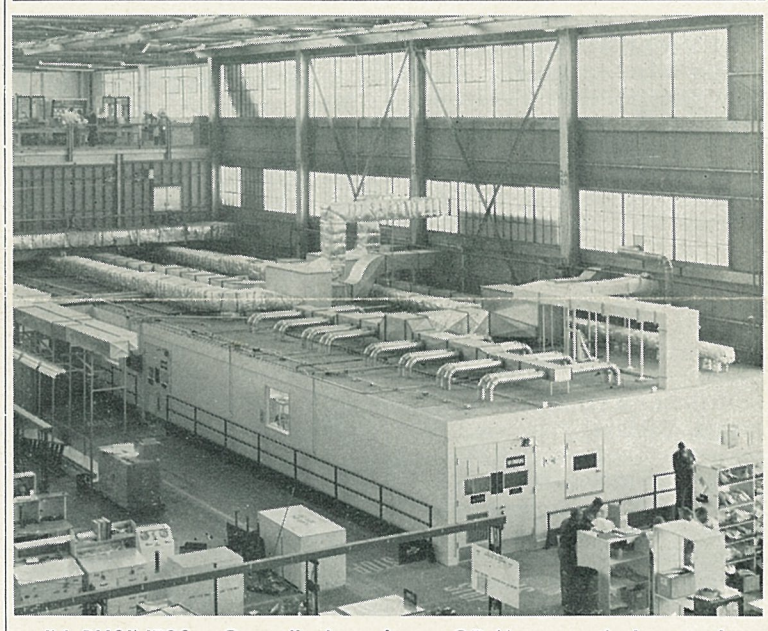
Serving on executive and program planning committees are Famme, Sylvester; F. D. Applegate and E. D. Bryant, both GD/Astro.

Goggin Will Teach Value Engineering

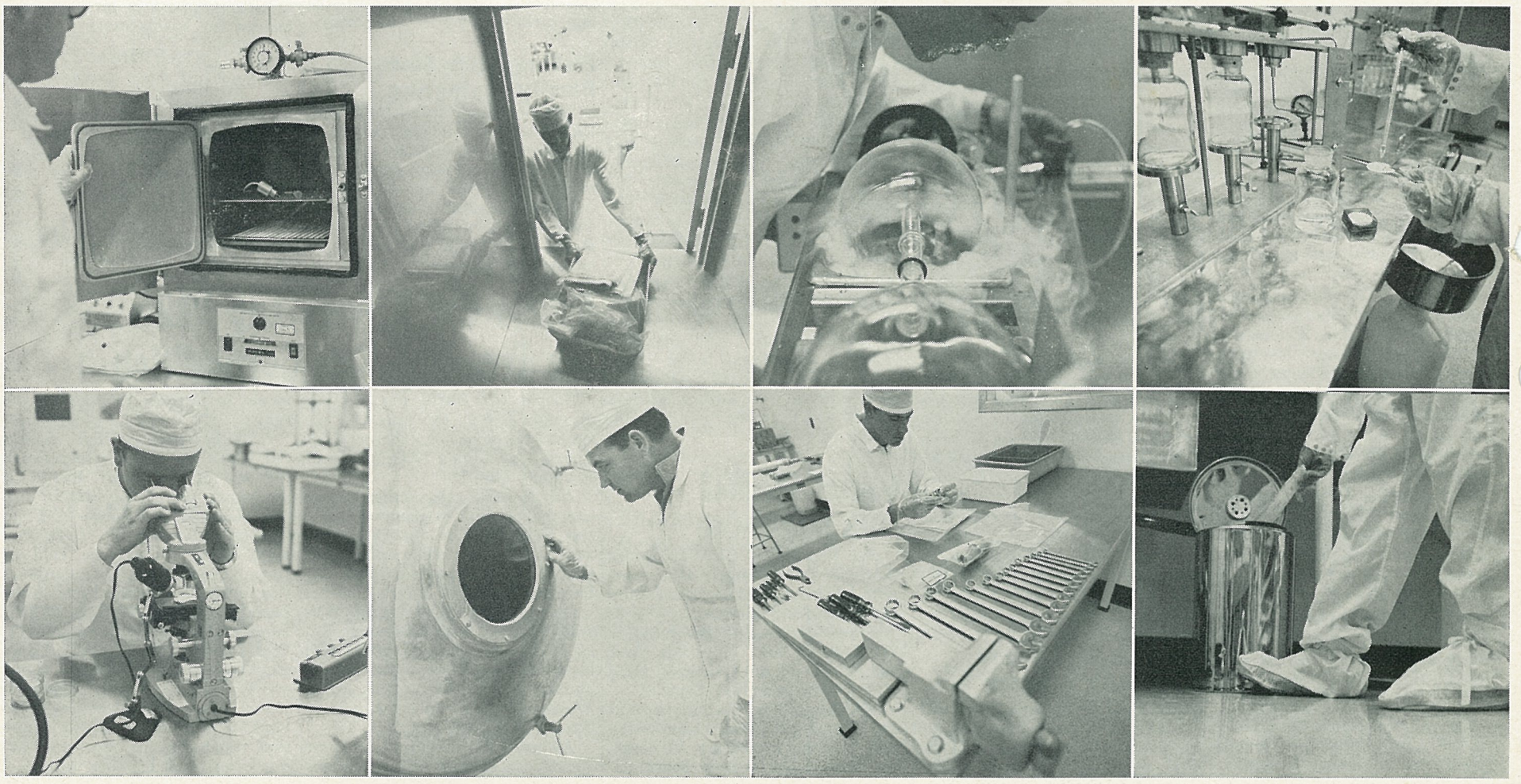
W. H. Goggin of General Dynamics/Convair educational services will instruct a value engineering course in the fall semester program of University of California Extension at San Diego.

The new business course, "Principles and Applications of Value Analysis and Engineering," will investigate fundamentals of the value approach to cost reduction.

Most divisions of General Dynamics Corporation presently conduct continuous training programs in value engineering.



IN BUSINESS—Overall view shows GD/Astronautics' new clean room facility at Plant 2, San Diego. Inside 3,300 sq. ft. area are cleaning and packaging functions for product support depot.



TECHNOLOGICAL PARADISE—Laboratory atmosphere of GD/Astro's newly operational clean room facility at Plant 2 in San Diego becomes apparent in series of pictures by Photographer Tom Mahnken. At upper left small oven is used for drying parts after elaborate cleaning process; next is double-doored pass-through by which parts enter and leave clean room; while next photos depict scenes in chemical testing laboratory within facility. At lower left, technician uses microscope to check samples wiped from components during cleaning; next is large counterpart of small oven shown above. Before leaving facility, cleaned parts are sealed in polyethylene. At lower right, special boots are part of garb worn by personnel in area, which includes caps, nylon suits, and plastic gloves.

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GENERAL DYNAMICS

NEWS

SAN DIEGO EDITION

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Cost Reduction Race Reaches Home Stretch

Three General Dynamics/Convair flat-salaried men had passed the qualifying mark for the 1962 President's Award by mid-September with eight other men and one woman very much in the running.

W. D. Moffett and Nick Kosmas, both of Dept. 34, and C. D. Dismuke of Dept. 27 each have saved the company more than $25,000 a year by their approved Cost Improvement Proposals to make them eligible for the annual cost reduction award.

Nine others, all with savings of more than half of the required amount, are E. E. Day, Dept. 16; A. R. Brunner, Dept. 45; S. H. Imdieke, Dept. 3; G. L. Peyton, Dept. 6; J. E. Blain, Dept. 34; L. A. Davis, Dept. 34; J. A. McSparron, Dept. 45; Mattie C. Ross, Dept. 26; and O. C. Banke, Dept. 115.

Candidates for the year's cost-cutting honors must be responsible for approved and installed CIPs totaling at least $25,000 in savings for the division during the calendar year, reminded Vic Janusz, Resources Economics coordinator responsible for cost reduction.

Winner of the President's Award, which has been given each year since 1954, is usually announced at a spring meeting of the division's Management Club. Honors include an individual bronze plaque, winner's name engraved on a similar perpetual plaque in the operating division manager's office, a certificate facsimile, and a $250 merchandise gift.

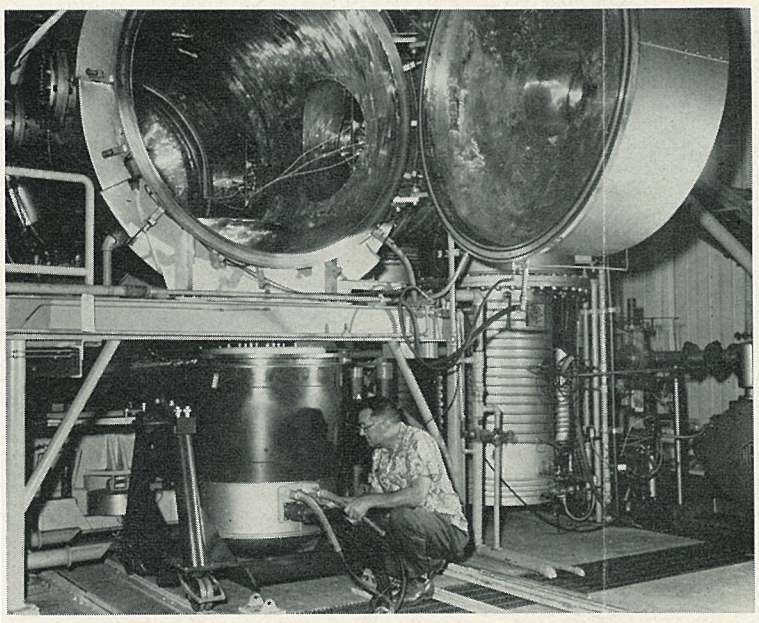
All supervision and flat-salaried persons are urged to go all out in turning in their suggestions now so that their eligibility will be established before Dec. 31.

Thumb Injury Ends Lost-Time 'Holiday'

An accident in Rose Canyon shipping department early this month ended the longest period without a lost-time accident ever registered by GD/Convair.

H. B. Collins, Dept. 14 crater and packer, injured the tip of his left thumb when several sheets of corrugated fiberboard, which he was sawing into 36-in. lengths, bound up between the saw blade and guard.

The division had gone 125 days without an employee being off the job due to injury. Previous GD / Convair record was 105 days.



SPACE SHAKER—H. O. Kuntze, test lab technician, hooks cool water tube to large vibration exciter during installation in General Dynamics Corp's advanced space chamber, now one of foremost in country in simulation of outer space environment. Chamber itself is 10 ft. long, 5 ft. in diameter.

Chamber to Simulate Missile Space Flights

Actual flight pattern of missiles, from pre-launch checkout, blast-off, to deep space propelled flight, now can be duplicated with the recent modification of the advanced space chamber in the dynamics test laboratory at Plant 1, San Diego.

Addition of vibration capability to the ultra-high-vacuum test chamber's extreme temperature range and vacuum conditions now simulates environments encountered by space vehicles from the time they are launched until they reach outer space.

The space chamber improvement allows General Dynamics to continue its advancements in this relatively new field of testing, GD systems dynamics engineers in charge of the program explain. So far, only a few laboratories in the U. S. have combined temperature, altitude, and vibration testing at the altitude range of the GD chamber. (Both GD/Fort Worth and GD/Astronautics, at its Kearny Mesa plant, have space chambers with lower altitude capabilities.)

The new system uses the existing space chamber, installed two years ago in Bldg. 72, with the addition of a 7,500-force lb. vibration exciter. Now, packages (or components) up to 500 lbs. in weight can be tested in deep space conditions at altitudes up to 320 miles and pressure at this altitude of roughly one-billionth of the normal sea level pressure!

Components under reliability test will be subjected to varying severity levels of vibration within the chamber to duplicate and exceed the few minutes of vibration experienced by a missile, first at blast-off, and then during ignition of second-stage rockets.

Vibration at high altitudes requires a perfect seal against air leaking into the chamber since the smallest leak will cause a serious altitude loss.

To obtain the seal, an ingenious coupler, combining a corrugated stainless steel diaphragm and silicone rubber rings, was designed under direction of James Davidson, test engineer. The diaphragm was fabricated by the explosive forming process at GD/Astro's main plant.

The large electrically-powered vibrator, or shaker, is positioned on a 15-ton steel platform acting as a seismic mass for isolation of the vibrator. When the shaker is sealed within the chamber through a 30-in. diameter port, all vibration is kept from the floor by 40 springs between the steel platform and the cart beneath. The cart can be moved on tracks under the chamber for removal of the vibrator when not in use.

Design of all necessary lift mechanisms and supports for the

(Continued on Page 2)

Navy Continues GETOL Study

The Navy announced last week that the Bureau of Naval Weapons has issued a $74,500 contract to General Dynamics/Convair to continue study on a ground effect takeoff and landing (GETOL) airplane. This study is part of a long range program intended eventually to ascertain the effectiveness and economy of utilizing the GETOL airplane principles in an anti-submarine warfare seaplane.

The GETOL concept, which has been studied and model-tested at GD/Convair for the past four years, uses the principle of ground effect to take off and land on a cushion of air that is over the surface of the water.

D. S. Oesterle, GD/Convair project engineer, said studies show that the GETOL plane needs only a lifting thrust power equivalent to eight/tenths of its

(Continued on Page 2)



INSPECTION TEAM—National Aeronautics and Space Administration group from Manned Spacecraft Center, Houston, Texas, headed by Max Faget (center), touring General Dynamics facilities in San Diego, hear Ed Schiff (facing camera at right), GD/Convair assistant group engineer, explain structures lab functions. GD/Convair President J. H. Famme is at far right.

Brevity Urged In Phone Calls

"Big Bills are for the Birds," proclaim posters and decals going up in GD/Convair facilities in Resources Economics' continuing battle on utility costs.

Red posters and decals bearing the slogan, "Hang up after 3 minutes," now are being posted in areas where most long-distance phone calls originate as a follow-on step in the current drive to cut telephone expense.

Phones in critical Plant 1 and Rose Canyon locations—engineering, purchasing, materials—will be marked with the constant reminder to keep phone conversations short. Telephone operators cooperate with switching all calls possible onto company lease lines and giving information at any time to help expedite connections and keep long-distance use at a minimum.

Long-distance calls cost the division $18,000 during the month of July, a drop of $5,000 from January's bill. Resources Economics recorders predict that the target of $50,000 savings for the year is well within sight, with a reduction of $32,750 marked up by the end of August.

Yellow posters say, "Turn off the lights when you leave," and blue ones warn, "Turn the water off tight." These have already been placed in GD/Convair, GD/Astronautics, and GD/Electronics areas within Plant 1.

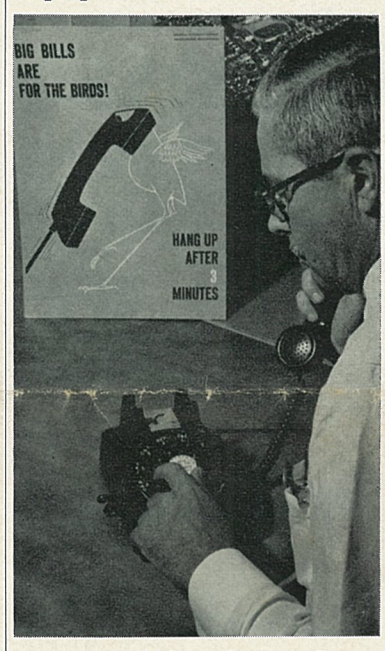
"We are positive that these reminders are having effect," said Vern Sharp, chief of maintenance, who is monitoring the utilities reduction program.

"Since we placed these posters in strategic spots, the security reports telling where lights are left on and for how long have decreased noticeably."

People working after hours or on Saturdays are especially cautioned to turn out all lights before leaving their areas.

July's electric bill was $89,711. Sharp said that he was sure that the usual rising costs during the coming winter months could be kept well below usual, if every person is as mindful of electricity waste at work as at home. So far this year $11,500 in savings has been realized.

Water posters and decals have been put up in rest rooms and such areas as processing departments and heat treat functions where usage of water is high. Cost of water during the month of July was $4,976 with a drop in the coming months anticipated if proper care is exercised.



SNAPPY TALK—George Baumgartner of Resources Economics group takes heed of reminders going up at GD/Convair to cut phone bills.

GD/Convair Girl to Be Named Queen in Fire-Safety Quiz

Some General Dynamics/Convair lass will reign over the division as first "Miss Torch" during National Fire Prevention Week, Oct. 7-13, following results of a division-wide fire and safety contest.

Privilege of naming the fire week queen will go to the department scoring the most points in knowledge of fire and safety procedures, said GD/Convair Fire Chief D. D. Dimmitt.

Winning department from Plant 1 or Rose Canyon will have a chance to select its favorite beauty as "Miss Torch" in the first annual contest, and will have its name engraved as first winner of a perpetual trophy.

The trophy has been donated by Convair Recreation Association and will pass each year to top departments in future contests.

Hugh Rae, fire marshal, will be circulating throughout GD/Convair areas during all of next week (Oct. 1-5) asking nine questions.

What is the first thing you do in case of fire?

Where is the nearest alarm box and how do you operate it?

Where is the nearest telephone?

What extension number do you call to report a fire and what information do you give recipient of the call?

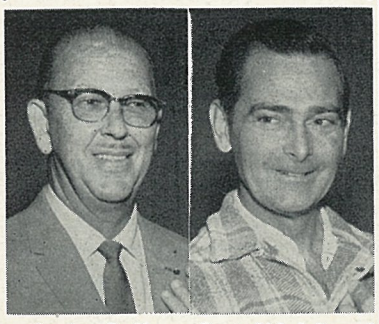
After fire department has been notified, what do you do?

(Continued on Page 2)



WHO'LL BE FIRST?—Blank plate on new trophy held by Fire Chief D. D. Dimmitt and Frank Merritt, manager of industrial security, awaits GD/Convair winner in first fire and safety contest next week. Top department will choose "Miss Torch."

Log Book Entries



Gordon G. Shoop, Dept. 218, left, and John F. Bogen, Dept. 140, both GD/Convair veterans, recently received their 25-year service emblems.



James A. O'Connor Jr., GD/Convair Dept. 140, also wears new 25-year emblem.

Service Emblems

CONVAIR

Service emblems due during the period Sept. 16 through Sept. 30.

Twenty-five-year: Dept. 133, C. M. Bissell; Dept. 140, W. A. Neal.

Twenty-year: Dept. 6, J. H. Corbett, J. R. Crenshaw, R. F. Holmes, E. G. Wygant; Dept. 44-4, E. L. Vogt; Dept. 91-7, C. E. Willcoxson Jr.; Dept. 133, Paul Bilka; Dept. 140, W. A. Miller; Dept. 171, E. E. Altman, L. G. Schell; Dept. 192-5, Ruby C. South; Dept. 401, L. W. Massey, F. J. Toth.

Fifteen-year: Dept. 2-2, Isabelle C. Corbett, Mary S. Powers; Dept. 3-8, J. J. Jackson; Dept. 6-800, J. B. Russell; Dept. 16-7, Fern F. Barton; Dept. 21-1, J. W. Blackwell, Arturo Sambrano Sr.; Dept. 29-3, C. L. Steel; Dept. 31, Louis Castro; Dept. 44-3, A. A. Atha, E. F. Toombs; Dept. 48, Leona A. Corley, F. R. Porter.

Dept. 100, Norma H. Winkler; Dept. 102, G. R. Cheshire; Dept. 133, H. G. Culberson; Dept. 140, W. R. Thompson; Dept. 171, D. D. Guest, W. B. Sanford; Dept. 192, George Bradley Jr., H. F. McKay, C. T. Nash; Dept. 216, Lillian B. Mixon; Dept. 218, Catherine R. Lema; Dept. 401-4, M. L. Cochran.

Ten-year: Dept. 2-7, W. H. Goldsmith; Dept. 6-762, M. B. Eilert Jr.; Dept. 14-6, D W. Woodward; Dept. 16-1, Emil Ruiz; Dept. 24-2, J. W. Huss; Dept. 27-6, Dolores L. Hall, Ava M. Little; Dept. 91-1, Eleanor C. Nottingham; Dept. 192-5, Evelyn R. Jones; Dept. 215, R. E. Pritchard; Dept. 292-5, LaVon K. Hibbs; Dept. 401, J. C. Ascencio, R. O. Barry, J. P. Donahue.

ELECTRONICS

Ten-year: Dept. 8(51020), V. H. Johnson; Dept. 21-00, Vicki S. Allen.

Retirements

CONVAIR

AGNER—Wesley C., Dept. 31. Seniority date July 23, 1946, retirement effective Aug. 31, 1962.

DAVIE—Elsie P., Dept. 25-2. Seniority date June 7, 1943, retirement effective Aug. 31, 1962.

GANE—Jack, Dept. 99. Seniority date July 15, 1946, retirement effective Sept. 5, 1962.

KELLS-MURPHY—John J. Sr., Dept 401. Seniority date Oct. 4, 1955, retirement effective June 16, 1962.

LOUGHLIN—William J., Dept. 99. Seniority date July 1, 1940, retirement effective July 30, 1962.

NEUMAN—Herman, Dept. 99. Seniority date Aug. 9, 1950, retirement effective Aug. 27, 1962.

SOTO—Joaquin L., Dept. 401. Seniority date Aug. 9, 1951, retirement effective Aug. 31, 1962.

WHITE—D. L., Dept. 140. Seniority date Oct. 1, 1953, retirement effective Aug. 26, 1962.

HOLLOMAN AFB

MORGAN—Roy R., Dept. 313-6. Seniority date Aug. 1, 1960, retirement effective Sept. 16, 1962.

Personals

CONVAIR

To Dept. 171 and Final Assembly—I wish to express my deepest appreciation for the many flowers and cards of sympathy sent at the death of my father.

Carl F. Uhl, Dept. 171.

* * *

My sincere thanks and appreciation to the people of Convair, particularly those in Dept. 216, and employee services, for the kindness and consideration shown me during the illness and death of my mother.

Stella Hahling, Dept. 216.

Navy Authorizes Continued Studies On GETOL Plane

(Continued from Page 1)

own weight.

"In other words, the GETOL plane retains the desirable features of pure VTOL aircraft but goes beyond VTOL by offering greater flexibility of operation," said Oesterle.

Under the contract, studies will be made of various GETOL air-moving methods and design criteria will be developed for the complex ducting required to produce the cushion of air under the plane.

The study objectives will be to determine the best components and arrangements of the air moving system for a patrol-type GETOL plane. Efficiency, simplicity and weight will be the guiding factors as GD/Convair thermodynamics engineers conduct the study and testing in the airflow laboratory for the next seven to ten months.

Chamber Simulates Missiles in Space

(Continued from Page 1)

vibration exciter was directed by Davidson. The fabrication was accomplished by Dept. 756 under the supervision of Don Tibbs.

First testing, now in progress is on components for GD/Astro's Centaur program—sun tracker and sun detector. Further Centaur testing on other components is anticipated.

The facility also will be used in other General Dynamics space programs, including the Little Joe II launch vehicle.

Use of the facility is under supervision of Howard Bard, assistant test lab group engineer in systems dynamics laboratories, with R. E. Hamilton and W. N. Hosmer, lead engineers, in charge of the combined environments testing. M. C. Brady is in charge of the systems dynamics laboratories. All are members of Dept. 500.

Culmination of the modification project concludes several months of planning, design, and fabrication under combined efforts of Plant 1 and Plant 71 personnel.

GD/E Water Skiers Urged to Join Fun

GD/Convair and GD/Electronics people may continue to enjoy water skiing with CRA Water Ski Club, Saturday mornings, 8 to 11.

The club furnishes all equipment and instruction at the regular sessions off Santa Clara Point, Mission Bay.

Sevigny extends the club's welcome to newcomers as well as experienced skiers, especially GD/E people in San Diego. He may be reached on ext. 2779, Plant 1, for information.

Births

GD/ELECTRONICS

POAT—Son, Wayne Anthony, 7 lbs., 16 oz., born Sept. 13, to Mr. and Mrs. C. L. Poat, Dept. 54.

Deaths

CONVAIR

KINCAID—John Paul, Dept. 115. Died Sept. 17. Survived by wife, Effie, three sons, a daughter, mother, brother, sister, 11 grandchildren.

General Dynamics NEWS

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TECHBOOK DISPLAY—H. R. Kennedy explains GD/Convair's advances in programmed instruction to military training specialists at recent conference. Programmers passing GD/Convair material are Charles Keys, J. D. Meacham, Dale Ball.

Division's Programmed Training Capability Told to Military

General Dynamics/Convair's developments in the programmed instruction field were described to a group of military training experts meeting at San Diego this month.

Howard R. Kennedy, publication manager, defined the division's capabilities in technical and industrial programmed instruction before 20 training specialists from all over the country at the Sept. 12 Programmed Instructional Materials for Technical Training conference, sponsored by GD/Convair.

Attending were Air Force delegates from Lowry AFB, Colo.; Chanute AFB, Ill.; Kirtland AFB, N.M.; Norton AFB, Calif.; and Lackland AFB, Texas; and Navy training personnel from San Diego installations.

"The conference was held primarily for the purpose of acquainting military representatives with GD/Convair's newly-developed capabilities in the programmed instruction field," Kennedy explained.

J. J. Alkazin, director of administration, opened the conference in Bldg. 19. Following Kennedy's description of GD/Convair's strides in programming instruction, P. H. Selby, flight training supervisor, explained the application of programmed instruction in the flight training area.

A dozen published GD/Convair TechBooks and samples of programmed instruction on aircraft systems were on display. The division's copyrighted programmed instruction includes a newly-completed series on value control.

Other TechBooks are "KIFIS—Instruction for Pilots on the Kollsman Integrated Flight Instrument System," "Description and Operation of the F-102A Arrest Hook System," "Operating and Maintenance Instructions for Rocket Package Test Adapter," "Safety Precautions for Nuclear Weapons," "Flying Safety Views on Ejection vs. Forced Landing."

GD/Convair programmers explained methodology of the division's advances in the new field and application of programmed instruction to military training requirements during open discussion.

Don Marshall, GD/Convair Son, Gets Film Role

Don Marshall, a GD/Convair son, can count on an enthusiastic audience as "The Interns," in which he has his first movie role, is shown in San Diego and his mother has a chance to view him in his acting career.

Don, 28, son of Alma Marshall (Dept. 25), is cast as one of the interns in the new Columbia picture, now being shown in Southern California theaters. The movie opened in San Diego last week.



Don Marshall

Although he has had several parts in little theater productions in the Los Angeles area since he became interested in drama, this will be the first time he has had a motion picture role. Other appearances include a part in the television play, "A Day in Court."

He attended San Diego High School before a tour of duty in the Army and began drama studies while attending Los Angeles City College. He later studied at the Beverly Hills Playhouse.

GD/Convair Team Tours IBM Facility

Three GD/Convair men joined a group of San Diego executives in a one-day tour of IBM's manufacturing plant and research facilities at San Jose, Calif., last week (Sept. 18).

W. D. Reed, director of manufacturing; W. E. Wise, manager of resources engineering; and G. O. Withem, general supervisor of data processing, made the trip via IBM private plane for a look at advanced data processing techniques.

Dynamics Authors Widely Reprinted In South America

Articles by General Dynamics authors are getting world-wide coverage with translation into foreign publications.

A recent copy of Revista Aeronautica, South American aviation magazine published in Colombia, carried a reprint in Spanish of an article, "Quality Control, Who Needs It?" under the title, "Quien lo Necesita?" It was written by W. M. Murphy, now of GD/Astro, and first published in the Air Force's Aerospace Accident and Maintenance Review while Murphy was with GD/Convair.

The same South American publication also had picked up an article written by George Cole, GD/Convair Dept. 6, a couple of years ago. The humorous description of torque, "The Greeks, They Didn't Have a Word for It," first was published in early 1959 in the AF maintenance magazine, reprinted the following year, and since has been seen in several European, Canadian and South American publications.

Stan Mahoney, also of GD/Convair Dept. 6, was latest to have an article accepted by Aerospace Accident and Maintenance Review with his account of "The F-106 Egress System" published in the September issue.

GD/Convair Girl To Become Queen

(Continued from Page 1)

Where is the nearest fire extinguisher located?

What type of extinguisher would you use on a trash fire?

How do you operate a soda and acid extinguisher?

How can you help prevent fires in your area?

"We hope this contest will prompt all employees to learn the basic, and most important, fire and safety emergency procedures," said F. G. Merritt, manager of industrial security.

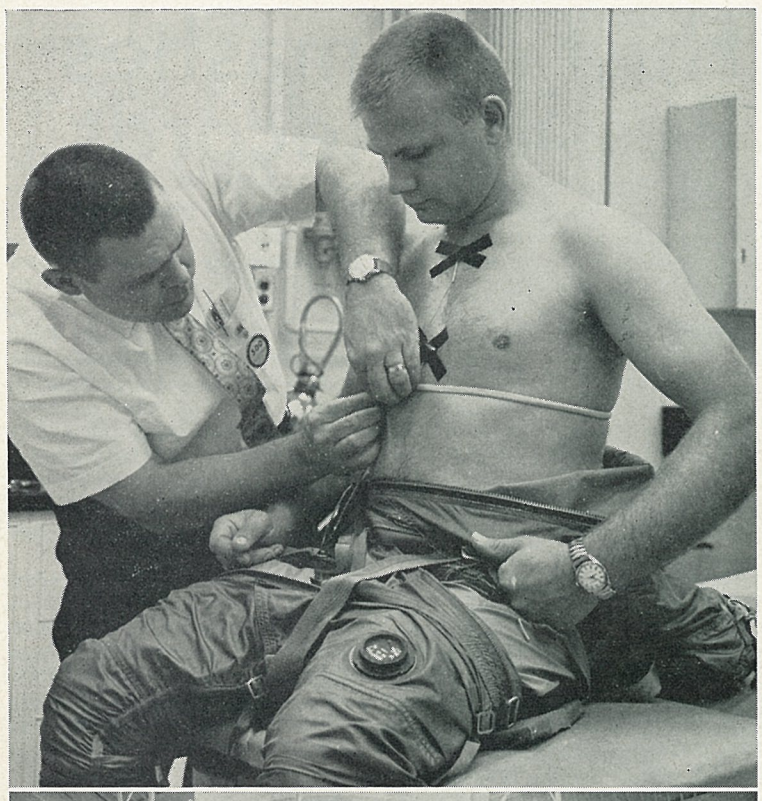
The fire department, at ext. 510 or 511, Plant 1, will provide answers ahead of time and give any information requested, said Chief Dimmitt.

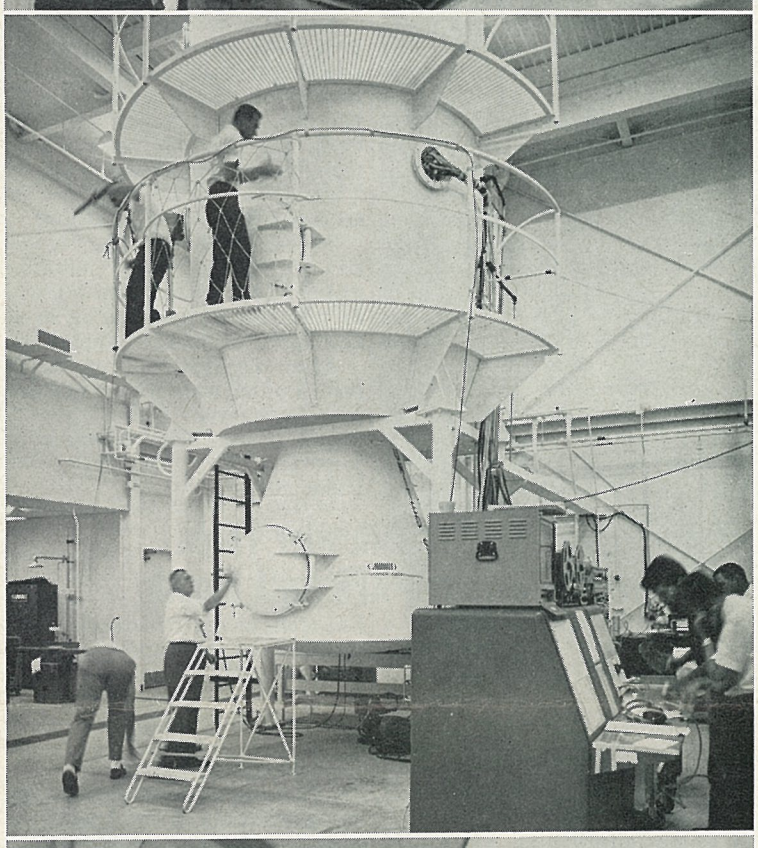


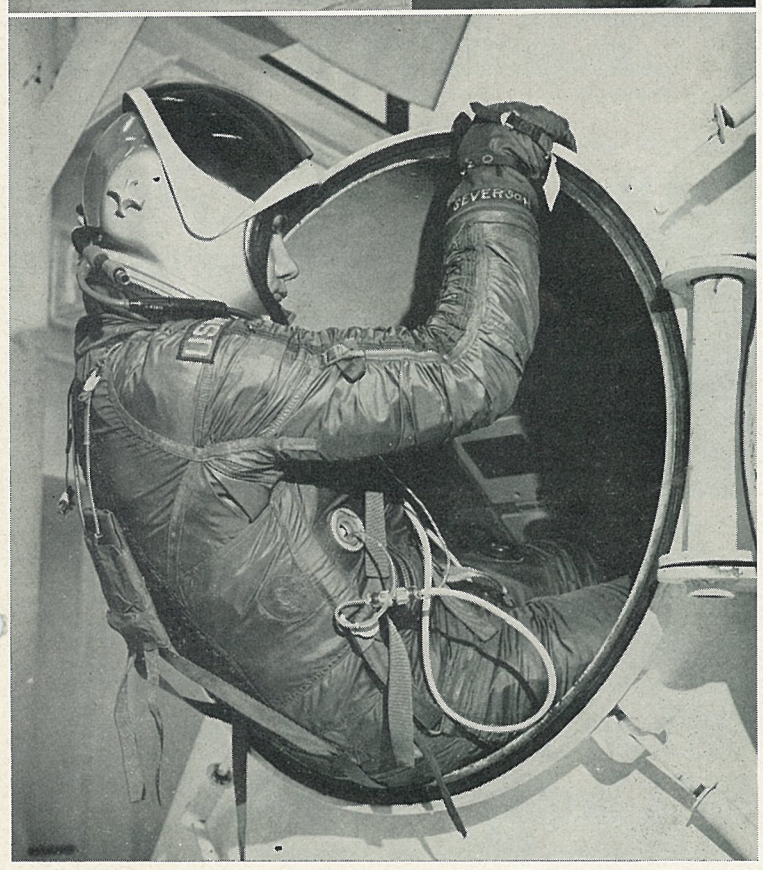
MONEY SAVER—Cliff Dismuke (Dept. 27), left, receives Mac-Save-it trophy for August for CIP reducing cost of IBM computer equipment in GD/Convair data processing, saving company $33,720 a year. R. M. Hatcher, director of industrial engineering, made presentation at Sept. 11 GD/Convair Management Club meet.



CLUB HONORS—H. E. "Gene" Pasek, manager of employment (left), is named Mug of Month for community activities by GD/Convair Management Club. Presenting award is J. K. Field, chief of employee services.







"SPACE" FLIGHT—Flurry of activity surrounds start of manned test in GD/Astro's Manned Static Space Simulator (MSSS). At top, R. R. Spradling attaches biomedical sensors which will aid in charting Dick Wolf's reactions during test. At bottom, pressure-suited Wolf enters lower compartment of MSSS.

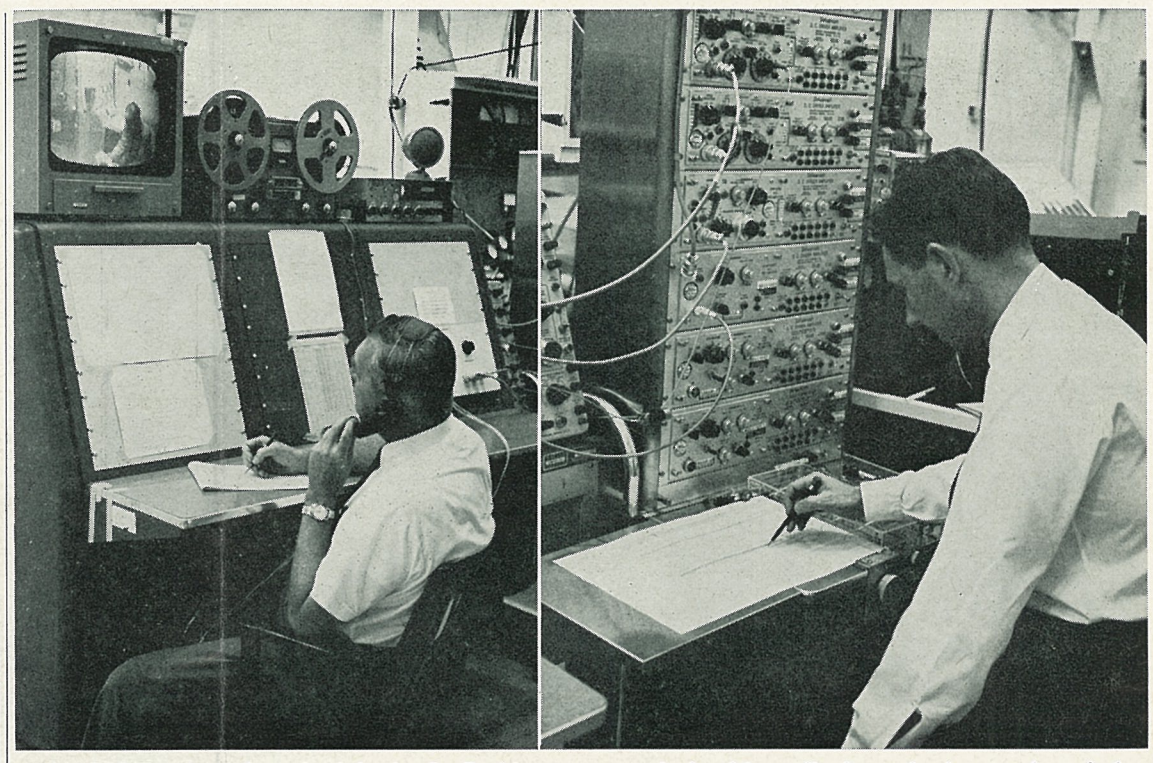
Sonobuoy Radio Receiver Order Awarded to GD/E at Rochester

The U. S. Bureau of Naval Weapons has awarded a contract to General Dynamics/Electronics-Rochester for special electronic equipment used in anti-submarine warfare.

The contract calls for the production of AN/ARR-52 airborne sonobuoy radio receivers and related support and test equipment, all completely transistorized.

Carried in patrol planes, the sonobuoy receives pick-up sounds broadcast by floating buoys equipped with submerged hydrophones. The support equipment provides automatic and semi-automatic checking of the receivers' performance to insure operation at maximum efficiency.

The new contract, for $834,737, carries on work which has been under way about two years.



IN ORBIT—At right, physiologist B. D. Newsom stands by biomedical monitoring station during manned test in space stimulator, receiving information on subject's pulse and respiratory rate, blood pressure, skin temperature, etc. In photo at left, R. L. Bottoms, master controller for tests, is in constant communication with subject. View of capsule interior is shown on closed circuit TV over console while recorder tapes conversation during test.

Team Studies Man in Space Environment

In a two-story tower rising from one wing of General Dynamics / Astronautics' sprawling "waffle building" (Bldg. 4) at the division's San Diego main plant on Kearny Mesa engineers are taking long "journeys" into space.

The manned trips are simulated in a new and comprehensive life sciences facility by a team of medical and space science experts with an imposing list of specialties.

This is the life sciences section (Dept. 594-0) headed by Dr. R. C. Armstrong (MD), section manager, and chief of its aerospace medicine group (Dept. 594-3).

W. E. Woodson, human factors and human engineering specialist, is chief of human factors (Dept. 594-5), and George Drake, chief of life support engineering (Dept. 594-7) is an expert in life support equipment.

Dr. W. L. S. Wu (MD) is an aeromedical specialist; Dr. B. D. Newsom, a research physiologist; Dr. J. M. Coyne, a neuro-psychologist; Dr. R. S. French concentrates on experimental psychology.

The staff also includes such specialists as R. L. Bottoms (systems management), R. L. Wolf (personal equipment), John Hooper (electrical and electronic equipment), W. H. Reineking (crew equipment), and a dozen engineers in the chemical and mechanical fields.

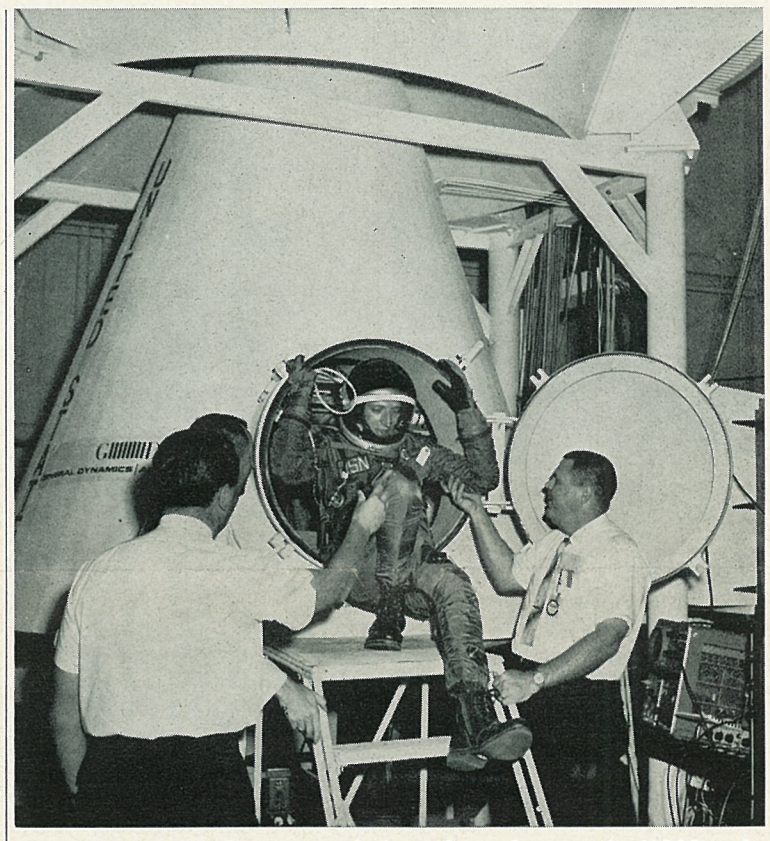
Base of operations for this team is Bldg. 4's new life sciences facility with clinical, biological and physiological laboratories and treatment center, psychological testing areas, space vision and life support equipment laboratories, offices, workshops, and a high bay area where space vehicle mockups are installed for simulating trips into space.

The integrated life sciences group provides a focal point for coordinating systems concepts involving man in a variety of "aero-space" situations. This includes Corporation-wide responsibility for research in the life sciences.

Unique is its capability to simulate a wide variety of space flights.

With the exception of weightlessness, the presently installed vehicle, called MSSS (Manned Static Space Simulator), can reproduce the essential phases of a mission beyond the earth.

It tests — simultaneously — all systems required to support human life under those conditions, with man actively participating in the system "loop."



HAPPY LANDING—At conclusion of another test in MSSS, subject Taylor Linzey emerges from capsule to accept greetings from John Hooper, Jack Tiernen, and R. R. Spradling, none the worse for his experience.

"This is a major advance over other life science facilities," explained a department spokesman. "By testing all systems at once we gain an entirely realistic approach in order to gauge the inter-relation of all phases of life support.

"In manned space flight, the capabilities and limitations of the astronaut must be considered in relation to systems for the support of his life and the accomplishment of the total mission."

Another unique capability of the group is its ability to assist in the development of personnel organizations for any particular manned vehicle system. This is accomplished by applying the results of a simulated program to the early determination (both quantitatively and qualitatively) of what personnel will be required to operate and maintain it.

With the MSSS "vehicle" proven as a reliable and effective research device (a recent manned test was a complete success), the group will expand to other areas. Other space vehicle mockups will take their places in the high bay area to be used in conjunction with MSSS or for independent tests and evaluations.

A list of projected life science studies indicates the potential utilization of this research facility in support of long range life sciences programs. On the docket are studies dealing with manned bases on the moon, lunar exploration, orbital manned space stations for a variety of missions, and manned deep space probes.

$1,400,000 ORDER RECEIVED BY GD/E

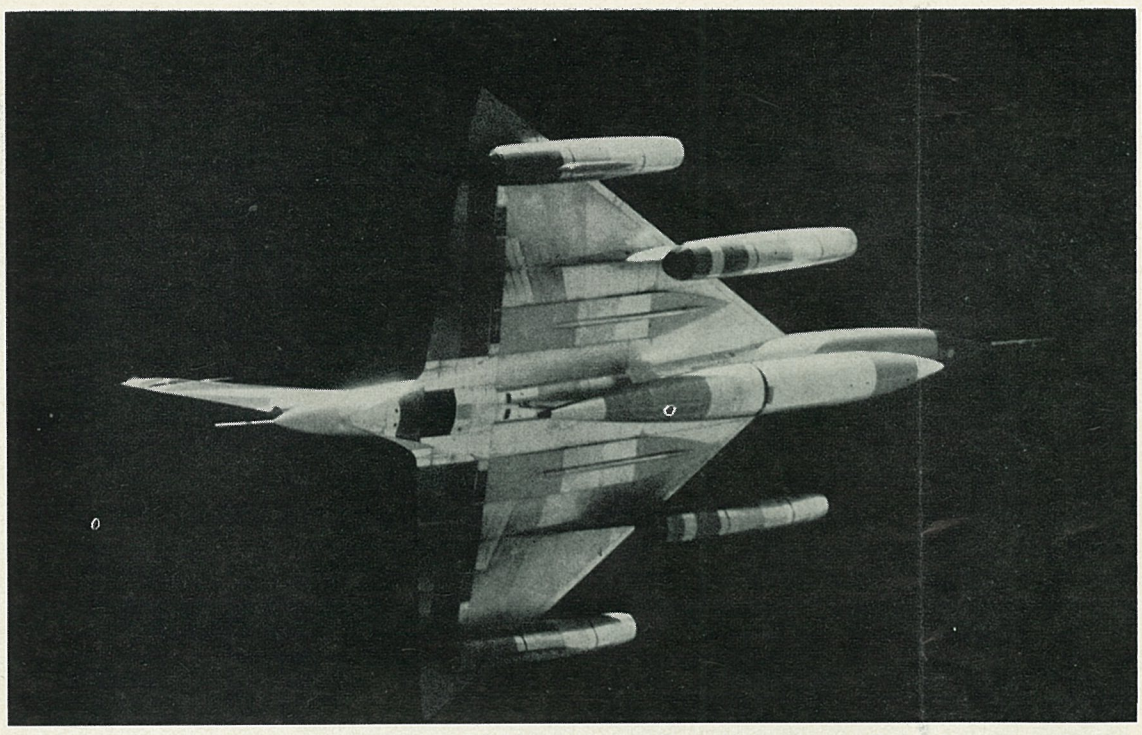
General Dynamics / Electronics division at San Diego has received a $1,400,000 order from International Telephone and Telegraph Federal Laboratories, Ft. Wayne, Ind., for electronic equipment.

The funding, received the first of this month, is for equipment to be used in a control system being created for the Air Force's Strategic Air Command.

John L. Lombardo, general manager of GD/Electronics at San Diego, said the total contract, which calls for 16 group display generator electronic equipments, is expected to be in excess of $2 million.

GD/Electronics delivered similar equipment to ITTFL last year.





HIGH FLYER—B-58 Hustler built by GD/Fort Worth flew 16 plus miles above earth this month to set new altitude-payload records.

Hustler Smashes Russian Records

Maj. Fitzhugh Fulton Jr. piloted a B-58 Hustler to over 16 miles above Edwards AFB, Sept 14, to claim two new world altitude-with-payload records for the U. S. Air Force. The records were formerly held by the Soviet Union.

The Hustler reached an indicated height of 85,360.8 feet and carried a payload of 5,000 kilograms (11,023 lbs.) in attaining the 14th record set by a B-58 since January, 1961.

The Hustler flight topped two records set by the U. S. S. R. in recent years: a 50,252.2 ft. flight on Sept. 16, 1959, with the same payload; and another of 66,170.72 ft. with 2,000 kilograms (4,400 lbs.) set July 29, 1959.

On-the-spot certification of the record flight was made by the National Aeronautics Association, which will forward the marks as new world records.

Major Fulton, former test pilot with the Air Force Plant Representative's office at GD/Fort Worth, is now chief of bomber flight test section of the Air Force Flight Test Center at Edwards AFB.

Navigator on the flight was Capt. William R. Payne, while Charles R. Haines, civilian flight test engineer, occupied third station.

The records were the 13th and 14th set by B-58s since early 1961. B-58 crews from the 43rd Bomb Wing kicked off a series of assaults in 1961 which set a total of nine new world speed and payload marks in five months.

Six records were set by two B-58s on Jan. 12 and 14, 1961.

One B-58 set three new official 1,000-kilometer (630-mile) closed-circuit records by flying an average of 1,284.73 mph. A second B-58 set three new official 2,000-kilometer (1,260) closed-circuit records by flying the route at an average speed of 1,061 mph.

The seventh award for a B-58 came on May 10, 1961, when a 43rd Bomb Wing crew sped around a closed course of about 670 miles in 30 minutes, 43 seconds.

The eighth and ninth records came on May 26, 1961, when a Hustler flew non-stop from Fort Worth to Paris, setting a new Washington-to-Paris record and a new New York-to-Paris mark. The NY-to-Paris time was 3 hours, 19 minutes, 51 seconds, an average speed of 1,089.36 mph.

Three more records were set by a B-58 on the famous round-trip flight from Los Angeles to New York. Time for the LA-to-NY run was 2 hours, 58.7 seconds, an average of 1,214.65 mph; return flight was made in 2 hours, 15 minutes, 50.1 seconds, an average speed of 1,081 mph.

Overall time for the round-trip flight, including refueling and turning around, was 4 hours, 41 minutes, 15 seconds, an average speed of 1,044.96 mph.

After leveling off at 35,000 feet, Fulton accelerated to some 1,300 mph, went into a steep 35 degree climb over Edwards to peak trajectory, then nosed the plane down.



PILOT — Maj. Fitzhugh Fulton Jr., who piloted B-58 to new records, is shown in cockpit.

NATIONAL VALUE CONFERENCES SET

General Dynamics divisions will be represented at two upcoming national conferences on value engineering, set for early next month.

E. W. Feddersen, GD director of manufacturing engineering; E. D. Heller, GD/Pomona value control coordinator; H. P. Williams, GD/Convair manager of value control; M. M. Reeder, GD/Electronics value control coordinator, will attend the conference on value engineering sponsored by Electronic Industries Association at St. Louis, Mo., Oct. 1-2, and the Society of American Value Engineers conference in Los Angeles Oct. 9.

Heller will act as chairman of the advanced techniques session at the St. Louis meeting as well as a member of the planning committee. GD/Convair value control coordinators will take part in panel discussions at the Los Angeles gathering.

GD/Convair Continuing Support For AF Planes

General Dynamics/Convair has received orders for 27 different tasks for the Air Force during the last ten months under a time and material contract, only one of its type ever issued the division.

The contract for engineering services in support of Convair-built military planes was awarded GD/Convair last fall, effective Nov. 1, through San Antonio Air Materiel Area.

By mid-September four tasks had been closed with Air Force approval, two were completed and waiting AF concurrence, and 21 were still in progress. And, more support calls are in sight before expiration of the current contract next month, predicts service parts, which administers all tasks and follow-on procurement.

Under terms of the contract, GD/Convair furnishes, upon request, engineering services, related data, prototype kits in support of T-29s, C-131s, F/TF-102As, F-106As and F-106Bs in service with the Air Force. In addition to support systems, services also include related ground support, training, and test equipment.

Specific calls include investigative engineering in-plant (as an example, one recent task saw engineers making an AC/DC electrical load analysis), or investigation into specific emergency-type incidents at AF bases, requiring immediate action. Also, the division can be called upon to build hardware for maintenance, overhaul, or modification of aircraft. GD/Convair men are sent to AF bases to assist in installation of prototype kits of parts for any kind of modification called for.

Many of the tasks have drawn on the capabilities of every function within the San Diego facility — engineering, modification publications, service publications, graphic reproduction, planning, tooling, purchasing, experimental, fabrication, inspection.

Time required for the numerous tasks has varied from six weeks to several months, some stretching throughout the entire year's period.

Tasks in progress at the end of the present contract will be carried through to their conclusion, and negotiations are now in progress for a similar contract for identical services throughout the coming year.

Corrosion Subject For Panel Talks

General Dynamics materials experts will take part in symposia on corrosion problems in the missile and aircraft industry at the Oct. 3-5 Western Regional Meeting of National Association of Corrosion Engineers.

The three-day conference will be held at San Diego's Catamaran Hotel.

A. Hurlich, chief of materials research at GD/Astronautics, will chair the Oct. 4 symposium on missile corrosion at which John W. Hensley of the U. S. Naval Ordnance Test Station at China Lake, Calif., will be main speaker.

E. I. Weed of GD/Pomona materials and processes and T. T. Tanaliski of GD/Astro materials research will be among panel speakers.

A. F. Hooper of the GD/Astro materials research laboratory will be chairman of the Oct. 5 symposium dealing with aircraft corrosion problems.

Film of Record-Setting Hustler Flight Premiered at Carswell AFB Last Month

A new 20-minute film of a B-58 Hustler's record-breaking, transcontinental flight last year was premiered at Carswell AFB last month.

"First" prints of the color movie were awarded to the crewmen and the 43rd Bomb Wing commander at the Wing's monthly Commander's Call.

B. G. Reed, GD/Fort Worth vice president - operations, presented prints to Col. Everett W. Holstrom, wing commander, and crewmen on the historic flight: Maj. Robert G. Sowers, pilot; Capt. Robert McDonald, navigator; and Capt. John T. Walton, DSO.

Produced at GD/Fort Worth, the film shows both ground and in-flight scenes of the 4-hour, 42-minute flight from Los Angeles to New York and return.

The crew received the Bendix Trophy for the feat.



QUALITY TALKS—Seated at head of table are three principals in General Dynamics Quality Control Working Committee meeting held at Astro, W. B. Harrell (NASA), J. E. Trader (Astro), and Ray Donaldson (NASA). Other representatives shown and their divisions include D. L. Hill (Astro), Lester Dassoff (Astro), B. M. Skrobiza (Electronics), T. J. Marcella (Astro), W. C. Wilhelm (Astro), C. W. Bailey (Pomona), D. W. James (Fort Worth), G. R. Bailey (Convair), Charles Wallman (Convair), S. K. Chambers (Pomona), and Kent Sinclair (Electronics).



F-102 RETURN—Two Air Force F-102As on GD/Convair flight line for installation of photographic and test instrumentation bring memories of several years ago when they were familiar sight. C. S. Rosefeld and W. C. Roberts of development and modification check blueprint.

GD/Astro Hosts Quality Meet; NASA Requirements Studied

GD/Astronautics welcomed two special participants and a group of "regulars" Sept. 5-6, at San Diego, as host organization for a General Dynamics (Corporation) Quality Control Working Committee meeting.

W. B. Harrell and Ray Donaldson of NASA's George C. Marshall Space Flight Center, Huntsville, Ala., joined representatives of major General Dynamics divisions for the sessions.

A key item on the agenda was "NASA requirements for personnel training, certification and qualification." Discussions involved study of concepts and interpretation of salient points found in a NASA quality control program document (NPC 200-2).

Also under study were "unified and common test equipment calibration procedures" and "standardization of (mutual) supplier quality evaluation and measurement."

Gathering periodically at various participating divisions, the committee exchanges knowledge, plans and resolutions attendant to quality control. It plays a major role in coordinating exchange of quality control techniques, concepts and experience information and helps strengthen controls related to procured materials, including the exchange of quality control procurement services for economy. Also important is work leading to the establishment of uniform procedures and centralization of controls whenever possible, particularly as related to supplier quality.

P. I. Harr, Astro director of reliability control, acted as host.

Many Qualify For B-58, F-106 Mach 2 Clubs

GD/Fort Worth's Mach 2 Club —once one of the world's most exclusive aviation fraternities—is now "pledging" members by scores.

The club was formed May 30, 1958, for anyone who had flown in a B-58 at twice the speed of sound.

Only 27 intrepid aerialists answered roll call at the club's charter meeting. Today, membership is approaching 600, and applications pour in daily.

Membership in the Interceptor Wing of Mach 2 Club is open to fighter pilot personnel who have flown at Mach 2 in a Convair plane. The club's executive director is Dick Johnson, former GD/Convair test pilot and now director of flight and quality assurance at GD/ Fort Worth.

Appropriately, B. A. Erickson, GD/Fort Worth's ace test pilot (now retired) was voted executive director of the Mach 2 bomber group.

Erickson had taken the B-58 on its maiden flight Nov. 11, 1956, and he was the first pilot to push the delta-winged speedster into the double sonic regime.

Erickson and a group of his cohorts—along with a handful of Air Force officers—formed the nucleus of the charter membership.

But as the Hustler joined SAC's strike force at 43rd and 305th Bomb Wings, memberships began rolling in. "Since Mach 2 is routine for the Hustler, virtually all B-58 crewmen are eligible for the club," an Air Force spokesman said.

In early September, 546 members had earned the right to wear the distinctive "M2" lapel pin.

"To join, a person must submit his name and resident address, date and location of Mach 2 flight and type of aircraft, and name and address of at least one person who can certify the flight," a club spokesman said.

The lure of flying at twice the speed of sound has attracted a host of notables—both military and civilian—with a "need to fly."

Last month Brig. Gen. Howard W. Moore, commander of the 19th Air Division, became the 11th Air Force general to gain membership.

Others are Gen. T. S. Power, Lt. Gen. C. S. Irvine, Maj. Gen. T. C. Odom, Maj. Gen. J. V. Edmondson, Lt. Gen. M. E. Bradley, Brig. Gen. B. A. Schriever, Maj. Gen. John W. Carpenter, Maj. Gen. Bruce K. Holloway, and Lt. Gen. J. D. Ryan.

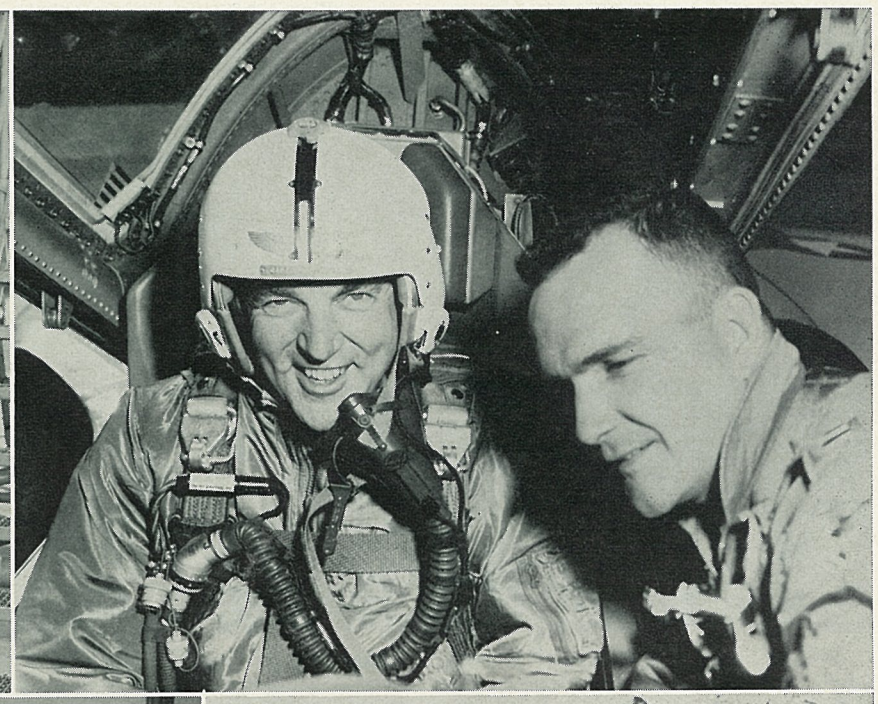
How does a Mach 2 ride feel? Perhaps the reaction of General Power is typical. Following the flight he said: "It was a very smooth ride. If you weren't looking at the instruments, you wouldn't know you ever flew faster than sound."

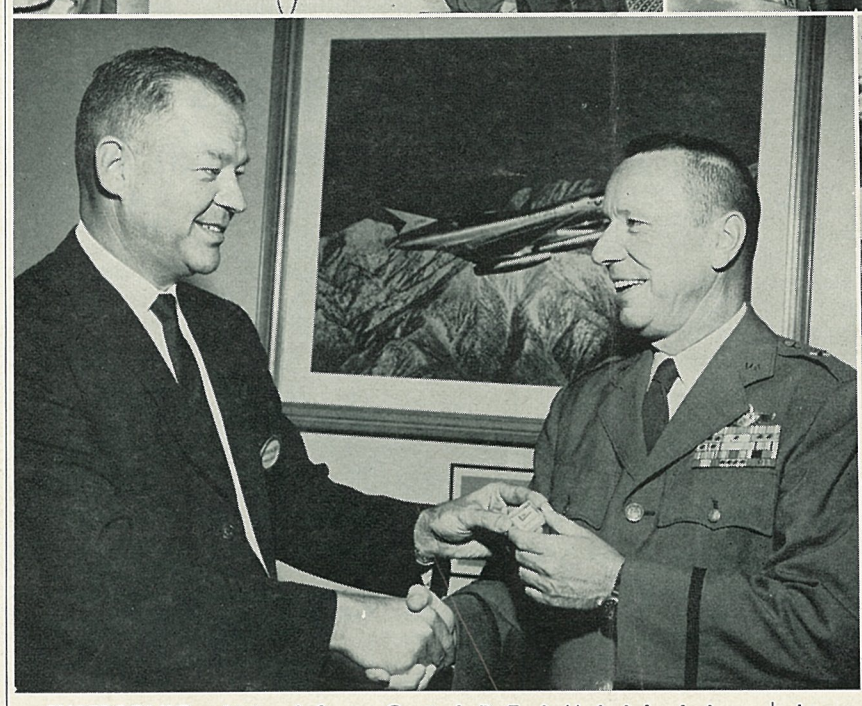
Col. Godfrey T. McHugh, President Kennedy's aide, gained membership during his B-58 flight.

A handful of air-minded Congressmen desiring first-hand knowledge of America's supersonic wherewithal, also boast Mach 2 certificates. They include Texas' own Jim Wright, Senators H. W. Cannon and Frank E. Moss, and A. W. Blackburn, Assistant Director of Defense R&E.

Meanwhile, members are accepted almost daily into this fraternity of airmen who have contributed virtually all of the Mach 2 bomber experience known today.









SUPERSONIC—At top left are Capt. J. R. Frei, Maj. John Irving, Lt. Vincent S. Karaba, T/Sgt. William T. Stott, members of record-breaking B-58 crew of 43rd Bomb Wing that flew record 1,000 hours in August. Lower left, GD/Fort Worth President Frank W. Davis presents Mach 2 Club pin to Brig. Gen. Howard W. Moore, 19th Air Division Commander at Carswell AFB, for Mach 2 flight in Hustler. Top right: Mayor Neal R. Fosseen of Spokane, Wash., beams in cockpit of F-106 after Mach 2 flight with Capt. Jackie E. Moothart of 498th FIS. Lower right: Maj. Gen. James V. Edmundson, right, Commander 17th AF, headquartered at Ramstein Air Base, Germany, accepts congratulations from GD/Convair rep. G. S. Mathews after checkout in F-102A of 526th FIS. Others, from left: Col. David McKnight, Lt. Col. William Ford, Capt. Robert Taylor.

Moffett Transfers To GD/Electronics

Thomas W. Moffett has transferred from General Dynamics/ Pomona to General Dynamics/ Electronics division at San Diego this month as manager of industrial accounting.



T. W. Moffett

Moffett, a native of New Haven, Conn., had been with GD/Pomona the last 10 years as timekeeping supervisor in the accounting department.

He was manager of industrial accounting for Security Engineering Co., division of Dresser Industries, at Whittier, Calif., from 1948 until he joined General Dynamics in the fall of 1952. Before that, he had been with the Allison Division of General Motors Corp., Indianapolis, Ind., for 10 years in timekeeping and inventory control.

SWISSAIR EXTENDS JET 990 SERVICE

Swissair added another city to its 990 air route to South America last month, extending the continent-hopping Convair jet airliner's itinerary 1,300 miles.

Santiago, Chile, is now terminal point of a 990 round trip from Zurich, Switzerland, to South America.

Twice a week a Convair-built 990 flies passengers over Swissair's network from Zurich to Santiago and back, touching down at Lisbon, Portugal; Dakar, West African seaport; Rio de Janeiro, Brazil; Montevideo, Uruguay; Buenos Aires, Argentina; then across the Andes to Chile.

After it returns to Zurich the 990 continues on in the opposite direction to Tokyo, Japan.

Lost Rod Tip Hooked Over Month Later

An unusual "fish tale" involving GD/Astronautics' Al Gross (Dept. 301) and Rudy Romero (Dept. 324) is making the rounds.

Gross was fishing in Mexico south of San Diego, near "kilometer 181" when he hooked the proverbial "big one." The fish snapped his rod and made off with the tip end. This occurred July 14.

Over the Labor Day weekend Romero was fishing the same area. He hooked the missing four-foot rod section and brought it in, minus fish!

NO SHOW PENALTY FOR AIR TRAVELERS RELAXED A TRIFLE

General Dynamics employees traveling on company business will be affected by a recent Civil Aeronautics Board modification of its "no-show" penalty regulation.

An earlier CAB ruling provided a stiff penalty for travelers failing to cancel confirmed flight reservations. Only exception was a 30-minute grace period provided for travelers using an airline-sanctioned means of transportation which was unavoidably delayed en route to the airport.

Under the modified regulation, the grace period will also apply to travelers prevented from meeting their flight's departure time, regardless of what surface transport is utilized.

Essentially, this means that travelers delayed by heavy traffic or other conditions beyond their control may present their tickets at the appropriate airline ticket counter up to 30 minutes after their flight's departure and avoid penalty.

GD/FW Tool Experts Contribute To New Engineering Textbook

Two GD/Fort Worth tooling specialists are among several contributors to "Fundamentals of Tool Design," a technical tool engineering textbook prepared by American Society of Tool and Manufacturing Engineers.

They are F. Lee Edmondson, Dept. 24-1 tooling engineer, who is national technical publications vice-chairman of ASTME, and Fred D. Hitter, Dept. 24-2 tool design engineer.

Published by Prentice-Hall, the book is authored by 82 practicing engineers, educators and technical specialists, and represents the efforts of virtually all ASTME chapters throughout the country.

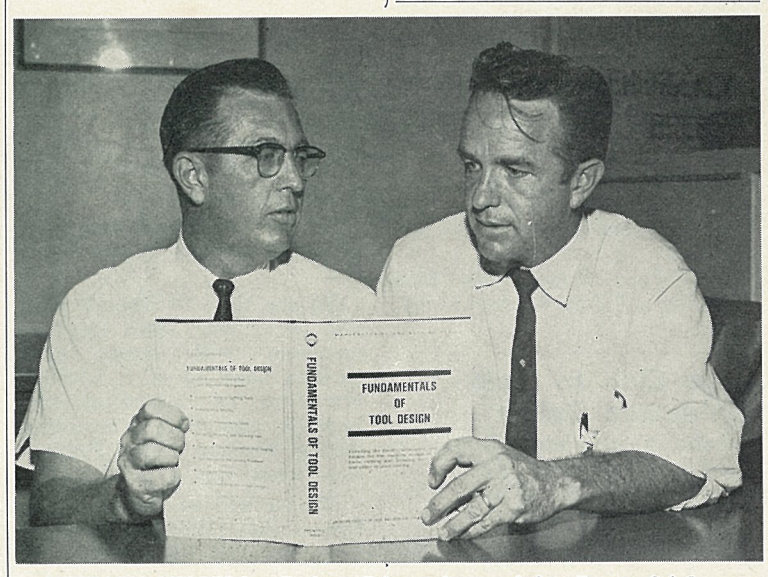
Edmondson introduced the project to the North Texas Chapter of the society. Hitter's work involved review and correction of material and submission of information for the work book, to be released soon.

In presenting a first copy of the book to Hitter on behalf of ASTME, Edmondson said the book is designed to be "of great value to tool and manufacturing engineers, and to those who are studying to become tool or manufacturing engineers."

Basic designs for machining, pressworking, casting, assembly, and inspection processes are among subjects explained and illustrated.

NURSE ATTENDS N. Y. CONFERENCE

Lorna M. Payne, GD/Convair staff nurse, attended the 10th Annual Presidents Meeting of the American Association of Industrial Nurses, Inc., in New York City Sept. 22-23. Mrs. Payne is president of the San Diego Industrial Nurses Association.



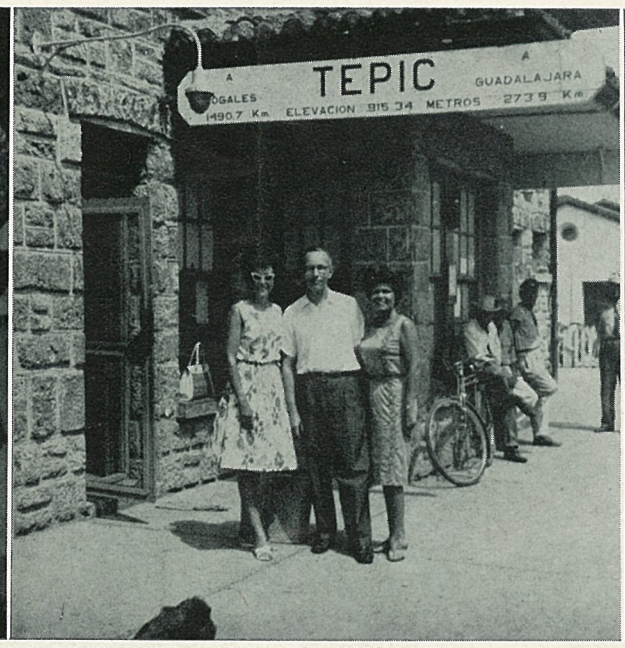
LITERARY HELPERS—F. Lee Edmondson, right, Dept. 24-1, presents "first" copy of new textbook published by American Society of Tool and Manufacturing Engineers to contributing editor, Fred D. Hitter, Dept. 24-2, both Fort Worth.

Fatigue Test Data Address Prepared

C. R. Smith of GD/Convair fatigue laboratory will present a paper next week before the American Society for Testing Materials at Hotel Statler in Los Angeles, Calif., Oct. 3.

"Small Specimen Data for Predicting Life of Full-Scale Structures," is title of paper based on Smith's research at GD/Convair.







BELOW BORDER—General Dynamics group enjoys "south of border" atmosphere on recent two-week journey into Old Mexico organized by Jim Hardison, of GD/Convair Dept. 15, in center shot with Betty Huddleston and Kay Anderson, both of GD/Electronics. At left are musicians of all ages snapped at Tlaxcala, famous as "home of mariachis"; at right, GD travelers enjoy stop at Guadalajara night club.

'Silver Bird' Event Highlight Of Gillespie Field Shoot

Highlight of CRA-ARA Gun Club's monthly shoot, Sunday (Oct. 7), will be a "Silver Bird" event.

Gillespie Field range is the site, open to all General Dynamics nimrods and families. Both trap and skeet shooting begin at 9 a.m.

"At least one silver target (bird) will be thrown for each squad competing," explained CRA Commissioner Jack Swank. "Any shooter breaking a silver bird qualifies for a shoot-off to be held at noon. Prizes will be awarded winners."

Entries are now being accepted for the annual "Big Game" drawing held every December. GD hunters bagging any species (deer, bear, moose, elk, lion, elephant, etc.) may enter.

Entry blanks are available at employee services outlets at all plants (GD/Convair, GD/Astro, GD/Electronics). One entry may be made for each kill of a qualifying beast. A wide variety of prizes will be awarded in the drawing at close of contest in December.

All Dynamics employees and guests are welcome to join the Gun Club for regular Wednesday and Friday practice shoots, 6:30 p.m., at Gillespie Field range.

Information regarding CRA-ARA Gun Club activities may be obtained from Swank at ext. 2583, Plant 1, or ARA Commissioner Ezra Johnson, ext. 2283, Plant 71.

Bridge Club Play Doubles

Since meetings were shifted to ARA Clubhouse, ARA Bridge Club attendance has nearly doubled, permitting a corresponding split in fees charged for various club events.

Participation fees for monthly Master Point nights have been reduced from $1 to 50 cents, and the cost of regular play nights has been halved to 25 cents.

The group plays at 7:30 p.m., each Thursday.

At a recent Master Point session the club was divided into two sections for play. First place winners were Don Abernathie, Bruce Beach, Pauline Blough, Paul Lewis, Guy Mabie, John Pitta, Art Saastad and Jim Svoboda.

At "Winner's Game," held monthly for winners of competitions conducted by all San Diego area bridge clubs, three members of the ARA club took first place honors in their sections. They are Mrs. Robert Rustad, Mrs. Paul Stevens and Mrs. Art Saastad.

Mrs. John Donan won first place in a "Unit Master Point" game.

Teen Club to Hold Clubhouse Dance

Astro Teen Club will hold a regular dance from 7:30 until 11 p.m., Oct. 6, at the ARA Clubhouse.

One guest per membership card will be allowed. The cost is 25 cents per person. Girls will wear school clothes, while sport shirts and slacks are acceptable for boys.

Salvage Purchase Schedules Set

Salvage yards at GD/Convair and GD/Astro will be open 8 a.m. until noon on the following alternating Saturday schedule:

GD/Convair—Sept. 29, Oct. 13.

GD/Astro—Oct. 6, 20.

Salvage yard employee sales require payment in full at time of purchase and all sales are final.

CRA and ARA Gardeners Plan Joint Meeting in Balboa Park

CRA Garden Club members will join with the Astro gardening group next week to hear two experts discuss fall planting and care of blooms in the Floral Association Bldg.

The joint meeting will be held next Wednesday, (Oct. 3) in the Balboa Park location at 7:30 p.m.

"Beauty in the Garden," will be subject of James Murphy of Garden Town Nursery as he outlines best types of flowering plants for fall, winter, and spring blooming.

A representative of Ara Chem, Inc., nursery suppliers, will talk on the advantages of using Lumite plastic shade cloth for lath houses.

CRA Commissioner E. L. Zimmerman and ARA Commissioner Everett Henderson, in charge of arrangements, urge all General Dynamics people interested in hearing gardening tips for this time of year to attend the open meeting.

Plans for the annual CRA-ARA fall flower show, for chrysanthemums and roses, will be discussed during the business portion of the meeting. Show date is Nov. 4.

Riding Club to Host Council Horse Show

ARA Riding Club will host San Diego County Horseman's Executive Council horse show in its Recreation Area arena, Sept. 29 and 30.

The show will run from 8:30 a.m. to 5 p.m. both days. Open western classes will be judged Saturday, with hunters, jumpers and saddle horses shown Sunday.

Judges are Jack Baker of Norco, and Ted Lonnberg of Pomona.

Horse show manager is C. Ward Jaques, with Freeman Hall, HEC president, and Jack Harrison HEC representative for ARA Riding Club.

Film To Be Shown Summer Bowlers

In 1961, fire took the lives of 11,700 persons in this country.

To see that "it doesn't happen here," GD/Astro fire department will resent continuous showing of a 15-minute film on industrial fire hazards and fire pretvention during National Fire Prevention Week, Oct. 7-13.

Movies will be shown in the fire station (Bldg. 6) from 11 a.m. to 1:15 p.m., Monday through Friday. Fire Chief A. C. Anderson has invited employees to bring their lunch and attend the showings.

GD/E Sponsors Quality Meet

General Dynamics people in the San Diego area are invited to attend the Oct. 8 meeting of the American Society for Quality Control, which is being sponsored by GD/Electronics division.

H. J. Stuart, GD/Electronics manager of reliability and quality control, in charge of arrangements, said that a tour of the Gavitt Wire Co., Escondido, manufacturers of high-grade electrical hook-up wire, will highlight the evening meeting.

The tour will follow a 6:30 o'clock dinner in the Planet Room of Palomar Lanes in Escondido.

Stuart said that the meeting will be of especial interest to all GD/E, GD/Convair, and GD/Astro quality control and inspection personnel.

Reservations may be made through the following contacts: GD/Convair—Phil Rader, Plant 1, ext. 663; Fred Lay, Plant 2, ext. 2057; GD/Electronics—Kent Sinclair, Plant 1, ext. 2212; Ivan Kemper, Hancock St., ext. 36; GD / Astro — J. F. Baebler, ext. 639; Eric Callard, ext. 3395; George Huff, ext. 2997; J. S. Ortega, ext. 4168; Lee Sattro, ext. 1500; J. G. Sugg, ext. 686, all at the Kearny Mesa main plant site.

Bargain Battery Prices Offered

General Dynamics people in the San Diego area may purchase batteries at wholesale prices through a special offer of the U. S. Battery Mfg. Co.

The company handles custom-built batteries of all types—automobile, marine, commercial. It is located at 2215 Kettner Blvd.

MARSHAL NEEDED FOR ASTRO TOURNEY

GD/Astro employees who may care to serve as marshals for the Sept. 28-29 Mickey Wright Golf Tournament at Stardust Country Club are being sought. Contact Bill Williams at ext. 2997.

Dynamics Travelers Return From Train Tour of Mexico

A group of General Dynamics men and women, from GD/Convair, GD/Astro, GD/Electronics, returned the first of this month from a specially-arranged two-week tour into Mexico to test their newly-acquired linguistic ability developed during a summer of ARA-CRA Spanish classes.

(The nine-week courses, stressing basic "tourist" Spanish, attracted more than 100 GD people.)

From the time the more than a dozen General Dynamics travelers boarded the Baja California-Sonora train at Mexicali, Aug. 17, until their return on Labor Day, they viewed a constantly changing panorama of Mexican life—from obscure Indian villages to highly-civilized Mexico City.

James Hardison, GD/Convair Dept. 15, who has taught Spanish classes for General Dynamics the last four years, said that his "students" and traveling companions found that they could understand conversations, order meals, ask directions, and sightsee on their own with their knowledge of the language.

Hardison repaid Mexican hospitality by showing the GD/Astro film, "Friendship 7," to the National University's engineering department, to science majors at Mexico City College, and to personnel of a Mexico City electronics firm.

A day in Taxco, stop at Cuernavaca, and four days at the plush El Presidente Hotel in Acapulco filled the second week before the GD tourists headed back to Mexico City and home again.

Over Hundred Make Outing

One-hundred and five employees and their families from GD/Convair and GD/Astronautics participated in the joint ARA-CRA Ice Skating Club's recent "Autumn Weekend at Big Bear Lake."

The pleasure-seeking horde filled Wawona Lodge to overflowing, with a few of the group spilling over into an adjacent facility.

Under direction of ARA Commissioner Bud Davies, the group took part in swimming, horseback riding, ping pong, and a host of other activities. Featured sport was skating, and 62 persons took to the ice to display varying degrees of skill.

Gil Hutter, Prophet Co. cafeteria manager at GD/Astro, and his staff served a Saturday evening meal of charcoal broiled hamburger steaks, followed by a marshmallow roast.

After dancing, and group singing around an open fire, a "midnight snack" of pizza was served.

Hunters to Attend *During Fire Week*

General Dynamics nimrods in the San Diego area may be interested in attending the annual Ducks Unlimited fund-raising party slated for Oct. 4 at Hotel del Coronado.

Tickets are $15 each and include a boneless squab dinner, entertainment, and an opportunity to win prizes. Proceeds help restore duck breeding areas in Canada.

Tickets may be obtained from George Cowan (Dept. 812) at Astronautics main plant.

Interest Gains In Sports Car Economy Run

Interest in this weekend's "Eagle Eye II Economy Run," sponsored by CRA Sports Car Club for all General Dynamics, is snowballing with Astro's Sports Car group scheduling it as their monthly event.

Special awards have been set aside for first through third places in ARA club entries, said Chase Allen, rally master of the Sept. 30 event.

Altogether, General Dynamics sports car drivers will vie for 21 prizes in the Sunday rally. Awards will go to winners and runners-up in Classes A through F, top three spots in ton-mile sweepstakes, and first three CRA and first three ARA club places.

The "Economy Run" is restricted to General Dynamics employees from any of the San Diego facilities, said Allen, who urges all GD/Convair, GD/Astro, GD/Electronics, General Atomic drivers to turn out.

According to present indications, at least 60 cars will compete, predicted Allen. He stressed that there is no limit to entries, as long as they are General Dynamics people.

Participants may bring guests, however, and cars will be weighed empty so that passengers will not affect weight of entries.

Registration will begin at 10:30 a.m., at the Wilshire Service Station, 3647 Rosecrans St. with first car scheduled out at 11 a.m. Safety and technical inspection to insure against added weight to help ton-mile determination, gas fill-up, and weighing will take approximately 20 minutes.

Entry fee of $1 per car will be charged. Fee covers weighing and use of private picnic facilities on Campo Road, which have been reserved for the outing.

Astro sports car drivers intending to enter may call ARA Commissioner E. S. "Judge" Penick, ext. 3162 at Astro main plant. GD/Convair and GD/Electronics people, as well as GD/Astro persons located at Plant 1, may receive information from Allen, ext. 1208, Plant 1, or CRA Commissioner Gerry Wright, ext. 2868, Plant 1.



SUNDAY SAILORS—Members of Pomona Valley Sailing Association "relax" at Puddingstone Reservoir in San Dimas, Calif. Dick Girvin (Dept. 6, GD/Pomona) is commodore. Fully recognized and accredited yacht club was organized in 1959 to take advantage of excellent year-round sailing conditions. Club sponsors a junior program.

Sports & Recreation

GD/E and GD/Convair Bowlers Start Winter League Action

At least 350 GD/Convair and GD/Electronics keglers rolled into action this month as CRA winter bowling leagues got under way at six San Diego area alleys.

GD/Electronics bowlers have entered two leagues—a Wednesday night mixed handicap at Pacific Recreation, and an eight-team mixed handicap rolling Friday nights at Mission Valley Bowlero.

SWING-SHIFTERS WILL ORGANIZE

An organization meeting for all swing-shift bowlers will be held this Saturday (Sept. 29) at 1 a.m. at Pacific Recreation to form leagues for the winter season. Call Frances Brooks, HO-9-8793 for information.

There still are openings in the 510-trio league Friday nights at Pacific Recreation, said Jim Hayman and Mike Brooks, co-commissioners. Also, a new league for high-average bowlers, 175 and over, will be formed for Wednesday nights at Clairemont Bowl, if enough sign up.

Other leagues now deep in competition are a mixed handicap league Tuesdays at University Lanes, a GD/Convair mixed handicap Wednesdays at Pacific Recreation, Thursday mixed handicap at Frontier Lanes, mixed foursome Thursdays at Victory Lanes, 850 scratch league Fridays at Tower Bowl.

All begin play at 6:30 p.m.

For openings or further information call CRA office, ext. 1245, Plant 1.

Club to Watch Slide Lecture

"The Language of Pictures" will be seen by members of CRA Camera Club at their next meeting Monday evening (Oct. 8) at Balboa Park's Photo Arts Bldg., 7:30 p.m.

All interested GD/Convair and GD/Electronics photography fans are invited to view the recorded slide lecture provided by the Photographic Society of America. It was compiled by P. H. Oelman, one of the country's best-known photographers and exhibitors.

Final quarterly contest of the year has been scheduled for the following meeting on Oct. 22, reminded Ron Ainsworth, program chairman. Honors will be given for top black and white and color entries.

At this week's meeting (Sept. 24) members shared their summer vacation highlights by showing slides and pictures of their trips.

As the club steps up its activities for the fall and winter months, anyone interested in receiving professional help and criticism on their picture-snapping is urged to attend the CRA group's meeting. Ainsworth will give information through ext. 1431, Plant 1.

Electronics Undefeated In 'Slow Pitch'

Convair Electronics swept through an undefeated season to cop the GD/Convair "slow pitch" softball loop championship, humbling Stores & Dispatch Plant 1, 16-9, Sept. 19.

Winners of the first-half crown with a 7-0 slate, Convair Electronics pulled a repeat in the second half, finishing with a come-from-behind attack that shattered aspiring Stores & Dispatch, runner-up in both halves of the split-season.

Batterymates Bob Myers (catcher) and Bob Baker (pitcher) paced the attack with a homer and two singles each. Larry Turchick added a three-run homer in the 4th to help the winners emerge from an early 6-0 deficit. Baker's blast capped a five-run 6th inning that iced the game for Convair Electronics. Fielding gems were turned in by Pat Kane and Cece Layman.

Stores & Dispatch Plant 1, who also played a well-fielded game, were led at the plate by Jack Barbioux's four-for-four, including two doubles, a triple and a homer.

In other games Sept. 19, Manufacturing Control Plant 2 maintained their winless record (0-7), dropping a 15-7 decision to Fire Department; GD/E Purchasing picked up the second shutout of the year, blanking GD/E Production Control, 13-0; Hi-Lows edged Accounting, 14-12.

Fire Department picked up their second of four straight victories Sept. 5, waxing Accounting, 15-5. Also on Sept. 5, GD/E Purchasing gained their first victory of the second half, 7-4, over Hi-Lows. Stores & Dispatch Plant 1, 15-8 victor over Manufacturing Control Plant 2, and Convair Electronics, who humiliated GD/E Production Control, 27-3 (including a 13-run first inning), both maintained their perfect records.

Games of Sept. 12 were a repeat of the previous week's play as the same teams won against different opponents.

Convair Electronics, held scoreless for four innings, came on to down a tough Accounting team, 10-4. Stores & Dispatch Plant 1 continued their hot stick work to wallop GD/E Production Control, 18-11. GD/E Purchasing kept Manufacturing Control Plant 2 in the cellar, beating them 9-6. Fire Department watered down the Hi-Lows' attack for a 12-2 romp.

Champion Convair Electronics will be honored at a dinner tonight (Sept. 26), 6 p.m., Convair executive dining room, Pacific Hwy., with trophies to be awarded each team member, reported CRA Commissioner Pete Beyrer.

SECOND HALF STANDINGS

	Won	Lost
Convair Electronics	7	0
Stores & Dispatch Plant 1	6	1
Fire Department	5	2
GD/E Purchasing	3	4
Accounting	3	4
Hi-Lows	3	4
GD/E Production Control	1	6
Mfg. Control Plant 2	0	7

More Con-Trib Funds Divided

An additional $11,250 in uncommitted funds was apportioned to nine charitable organizations by GD/Convair Employees' Con-Trib-Club Committee this month.

These contributions make a total of $27,250 approved in year-end donations. Eleven San Diego organizations, most for the benefit of the youth of the area, received $16,000 after final approval early this month.

Most recent donations go to: Mercy Hospital's Guadalupe Clinic, $1,500; Volunteers of America, $1,000; Crossroads Foundation, $750; Pathfinders of San Diego, $500; Family Service Association, $1,500; San Diego County Edgemoor Geriatric Hospital, $2,000; United Cerebral Palsy Foundation, $1,500; San Diego County Association for Retarded Children, East County Chapter, $1,000; Sunnyside Guild, Inc., $1,500.

Programmers Meet Sept. 27

General Dynamics programmers and training personnel are urged to attend tomorrow's (Sept. 27) monthly meeting of the San Diego Chapter of the National Society for Programmed Instruction.

Meeting place will be the Convair cafeteria's main dining room, Pacific Hwy., 7:30 p.m., said J. D. Meacham, GD/Convair Dept. 16-1, who is serving as pro tem. president.

Highlight of the evening's program will be a talk by Dr. E. F. O'Day Jr., assistant professor of psychology at San Diego State College. Dr. O'Day will describe his experiences in developing a program on rocket propulsion this summer at China Lake, Calif., naval base, in conjunction with naval research.

Ellis Wayne of the Teaching Materials Corp. is expected to present a motion picture film and discussion of teaching materials.

The nominating committee will present the slate of officers for the next year and a chapter emblem will be chosen. Coffee will be served.

Further information is available from Meacham, ext. 2249, or C. M. Keys, ext. 2782, both Plant 1.

John Gehman In New Post

John B. Gehman of General Dynamics / Electronics at San Diego was named engineering staff specialist early this month.

Gehman, who reports to Dr. Donald Wahl, manager of engineering, will be closely aligned with the development of new business fields.

He was a senior engineering specialist and senior project engineer with Thompson Ramo Wooldridge, Inc., Cleveland, Ohio, for four years before joining GD/Electronics in July of this year.

A native of Pennsylvania, he received his BS degree in electrical engineering at Villanova College in 1939. That year he joined the Radio Corporation of America where he held several engineering positions in various fields of electronics until 1954 when he accepted the position as head of the Advanced Development Department at Clevite Research Center, Cleveland. He later headed the Electronics Department at the Center.

During World War II, Gehman was responsible for development of a non-metallic land mine detector and holds several patents in the fields of transistors, computers, and magnetic circuitry.

Road Runners Join In Plans For Rally

CRA Road Runners will be turning out en masse this weekend to take a major part in the annual rally of Border District Travel Trailer Clubs of America at Del Mar Fairgrounds.

Ivar Peterson of the Road Runners is co-chairman of the Sept. 27-30 gathering which is due to attract 300 trailers from throughout the Southland. The GD/Convair group also is handling parking and children's entertainment and putting on a square dancing exhibit Saturday night.

TWO COMPANY CARS OFFERED FOR SALE

Two company cars are going on sale at GD/Convair with employees privileged to submit offers. The cars, a 1957 Cadillac sedan and a 1959 Chevrolet, will be sold on a minimum sealed bid basis. Call John Cook, exts. 754 or 1609, for information.

Hams to Pay Astro Visit

CRA Radio Club members and their families have a bonus meeting in sight tonight (Sept. 26) with the invitation from the Astro Radio Club to attend its regular session, 7:30 p.m., in ARA Clubhouse.

Guest speaker will be Terry Vasquez of GD/Astro, formerly of GD/ Convair engineering, who will talk on the Powder Puff Derby, annual all-women pilots' transcontinental air race. Mrs. Vasquez has competed in the cross-country flight competition several times.

Bill Hemingway, president of the Astro club, said that all GD/Convair and GD/Electronics members and wives of the CRA group are welcome.

The regular meeting of the GD/Convair Radio Club will be held tomorrow (Sept. 27) as usual, reminded Jim Lack, CRA commissioner. It will be in the club's Harbor Drive headquarters at 8 p.m.

Rockhound Shack Open Day a Week

The Rockhound Shack, across from GD/Convair Plant 1 on Pacific Hwy., will be open for lapidary work only one day a week this fall, said Dan Whorton, CRA commissioner.

Classes will be held on Tuesdays—7-9 p.m. for day shift, and 12:30 to 2:30 in the afternoon for second shift.

However, if demand for instruction increases, classes will be scheduled on Wednesdays, as formerly, said Whorton.

CRA Rockhound Club will resume regular meetings on the second Thursday of each month with the Oct. 11 meeting in Gillespie Field Clubhouse, 7:30 p.m.

Badminton Players Meet on Tuesdays

Badminton players at GD/Convair and GD/Electronics are urged to turn out for group play held each week in Federal Bldg., Balboa Park.

Tuesday evenings, 7:30 to 10 p.m., are set aside for General Dynamics badminton enthusiasts, reminded Bill Johnstone, CRA badminton spokesman.

Riders Explore Back Country

Fourteen horsemen wound through the Cuyamaca Mountain area on a five-hour trail ride Sept. 15 to meet main group of the CRA Riding Club who had set up camp at Los Caballos Group Camp for a weekend outing.

Over 40 members and their families traveled in campsters, trailers, cars to join in the September trail ride and campout in the back country.

Riders hit the trail early Saturday morning from Hulburd's Grove near Descanso, on the 17-mile trek along the Sweetwater dry river bed, through Echo Dell valley, across Cuyamaca Peak, and around Stonewall Peak to Los Caballos.

Jim and Signe Hill (he's in GD/Convair Dept. 400) chairmanned the monthly trip and prepared Saturday night supper and Sunday morning breakfast for the crowd. The club's Color Guard combo, directed by Luke Barbour, played for dancing Saturday night.

Coming activities of the Riding Club include a business meeting next Thursday (Oct. 4) at 7:30 p.m. in Gillespie Field Clubhouse and a Halloween costume party Oct. 27.

Swim Nights Dropped For Rest of Year

Free swim nights for GD/Convair and GD/Electronics families have been discontinued until after the first of the year.

Mission Beach Plunge has closed for annual refurbishing and maintenance, announced CRA Commissioner Pete Beyrer.

CRA-sponsored swim nights may resume in January.

Baseball Tryouts Scheduled Sunday

Winter league baseball tryouts for GD/Convair and GD/Electronics players will be held Sunday (Sept. 30), 10 a.m., at Golden Hill Playground.

Opening of the winter league schedule is tentatively slated for Oct. 14.

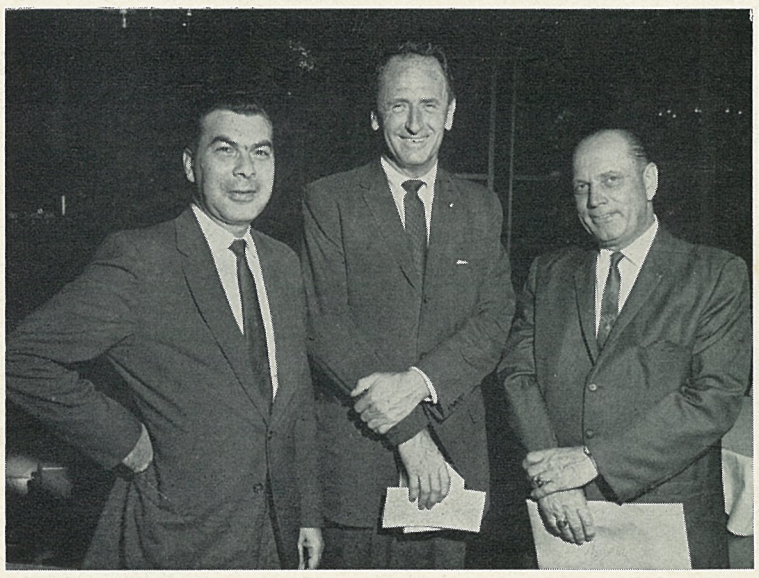
CRA Commissioner Pete Beyrer urges all, and particularly those with baseball experience, to attend. All hopefuls must bring their own shoes and gloves.

GD/E and GD/Convair Will Play Circle R

Deadline for entries in the next CRA golf tournament is this Friday, Sept. 28, CRA Commissioner Ken Wulfemeyer reported.

The tournament will be held Oct. 6 and 7 at Circle "R" course.

All GD/Convair and GD/Electronics golfers planning to enter may call Molly, ext. 1705, Plant 1, for starting times.



DYNAMICS TRIO—Roger Lewis, center, president of General Dynamics, posed during recent San Diego visit with J. H. Famme, right, president of GD/Convair, and John Lombardo, new general manager for GD/Electronics at San Diego.

GD/FW's Widmer Chosen For 'Spirit of St. Louis' Medal For Work on B-58

Robert H. Widmer, GD/Fort Worth vice president-research and engineering, has been named winner of the Spirit of St. Louis Medal for 1962 by the American Society of Mechanical Engineers.



Robert Widmer

He was named winner for his "outstanding contributions to the development of the B-58 airplane."

The award will be presented at the Gas Turbine Propulsion-Aviation-Hydraulics Conference March 5 at Los Angeles.

The Spirit of St. Louis Medal is ordinarily awarded by ASME every three years for "meritorious service in the advancement of aeronautics."

Widmer is the 13th person to win the medal. The award has been made every three years since its inception in 1929, except when presented successively in 1954 and 1955—and now in 1961-62.

Samuel K. Hoffman received the medal in 1961 for his contribution to the first major long-range, rocket-powered engine; and Widmer, of course, is the 1962 recipient.

Previous winners of the award have included such notables as Will Rogers in 1935, James B. Doolittle in 1938, and John K. Northrop in 1947. The latter won the honor for "development of a successful flying wing."

Widmer graduated from Rensselaer Polytechnic Institute in 1938 with a bachelor's degree in aeronautical engineering; he obtained a master's degree in aeronautical engineering the next year from California Institute of Technology.

The veteran engineer began his career with GD/Convair in 1939 as an aerodynamics engineer on B-24 and B-32 bombers.

He was transferred to the Fort Worth Division in 1942 as head of the aerodynamics group. In 1949 Widmer became chief design engineer-technical, and was subsequently promoted to chief engineer, then vice president-research and engineering.

In addition to his outstanding work on the B-58, Widmer was closely associated with the YB-60 and B-36, receiving the Air Force Association's Annual Field of Science Award in 1949 for his work on the latter.

In recent years, Widmer has served on several committees of the National Aeronautics and Space Administration and as a member of the operating committee of the USAF Arnold Engineering Development Center at Tullahoma, Tenn.

For the past seven years he has served as consultant to the Assistant Secretary of Defense on research and engineering and as a member of the Air Force Scientific Advisory Board.

Widmer is also acting chairman of the University of Texas aerospace engineering visiting committee, a member of the University of Texas Engineering Foundation's Advisory Council, and assistant chairman of the scientific center committee for the Fort Worth Chamber of Commerce.



"Boy! Wipe that silly grin off his face."

'Wide Spectrum of Capability' Working For Us, Says Lewis

Roger Lewis, president of General Dynamics, addressed two gatherings in San Diego Sept. 11 and Sept. 12, one for GD/Convair Management Club and one for GD/Astronautics' Club.

His remarks, tempered by cautious optimism, touched upon division opportunities and outlined the increasingly competitive nature of the aerospace business.

Among those at the speaker's table Sept. 11 were J. H. Famme, GD/Convair president; E. J. Williams, Dynamics vice president-manufacturing; J. T. MacDonald, assistant to Lewis; John Lombardo, newly-named general manager of GD/Electronics at San Diego; E. R. Fink, club president. At the Sept. 12 meeting those introduced included J. R. Dempsey, GD/Astro president; Dr. Frederic de Hoffmann, president of General Atomic; Ed Russell, club president; Frank Traversi, GD/Astro director of material; and Williams.

At both meetings Lewis emphasized the vital requirement for greater effort toward excellence in submitting business proposals, and the need to anticipate and be alert to opportunity.

"There is a continuous process of technological breakthrough going on," he told GD/Convair. "The fellow who solves the problem of keeping up and keeping ahead, will prosper . . .

"In making a proposal, study the situation carefully, know the real customer requirement, learn everything possible about the problems involved, have a clear insight into what the competition is doing," he told GD/Astro.

Other highlights:

The character of military business is changing gradually, but definitely. Systems are so complex and so expensive that the United States must be highly selective. GD must be sure it is working on the right family of weapons.

* * *

Speaking directly to GD/Convair, which he described as "lean and hungry," Lewis affirmed his faith in manned aircraft as a potential and predicted "a lot of aircraft work" still ahead. He indicated that 1962 might well turn out to be a low point in manned airplane activity.

* * *

Lewis emphasized General Dynamics' wide diversity of talent and facilities in air, sea and land technology and urged all divisions to think less of themselves as specific divisions and more about the strength of the Dynamics overall organization.

"All divisions are part of the family. We have competitive strength in unity and we must attack our problems as a team."

* * *

At both meetings Lewis referred to GD/Fort Worth's current efforts toward the TFX multi-service fighter contract and praised the division as having done a great job "win or lose." He used this effort (which has been going on for two years) as an example of the requirement to work far in advance in anticipating future needs.

* * *

Touching upon his own theories of management, Lewis indicated that titles and how many people work for an individual mean little, but accomplishments mean everything. "Each of us must understand the purposes of General Dynamics as an enterprise and do all we can to advance it."

* * *

"I'm optimistic about General Dynamics. There is a lot of strength here. The times are right for exceptional effort. The Corporation has the advantage that there is none with so wide a spectrum of technology which can be called upon as the situation requires.

"The rate of change will be great in the next 10 years, and if we are on the ball we will have a share in its opportunities."

* * *

Both meetings were thrown open to questions from the floor and at both, the question was asked if he thought politics or depressed area considerations played a part in contract awards. Lewis' answer was essentially the same, pointing out that it is to the customer's advantage to encourage competition by spreading business, but stressed that companies must get work on a hard-boiled basis of technological know-how. "They are not going to get business because they happen to be hard up."



ASTRO NIGHT—Roger Lewis chats with J. R. Dempsey, president of GD/Astronautics, prior to talk before GD/Astro Management Club.

GD/Astro Greeters See Kennedy on Cape Trip

CAPE CANAVERAL — About a dozen General Dynamics/Astronautics employees here on all levels exchanged greetings with President Kennedy during his recent visit to this installation.

Three aircraft carrying the presidential party landed at the Cape Skid Strip. A motorcade was formed and proceeded directly to Complex 14, the Atlas-Mercury pad from which two previous manned flights were made and another is pending.

Greeting the President on arrival were Astronaut Walter Schirra and Col. Paul R. Wignall, commander of the 6555th Test Wing. They briefed the party on the upcoming flight as it moved up the ramp.

In a roped off area all General Dynamics/Astronautics employees working Complex 14 waited along with associate contractor personnel. The President broke away from the official party and shook hands with as many as he could reach in the crowd.

B. G. MacNabb, GD/Astro director of operations here, greeted the President and introduced him to key Astro men, including Tom O'Malley, who launched the John Glenn flight, and Cal Fowler, who launched Scott Carpenter and is scheduled to launch Schirra.

On departing, the President turned back to say good-bye to the approximately 75 men on hand. His tight schedule called for about 14 minutes at Complex 14. He actually spent 16 minutes.

While Astro employees could not hear the exchange between the President and his briefers, they noted he seemed extremely interested and interrupted several times to ask questions.



PRESIDENTIAL VISIT — President Kennedy and Astronaut Schirra listen as B. G. MacNabb, GD/Astro director of operations at AMR, conducts briefing at Complex 14, Cape Canaveral. President met key Astro men there, shook hands with many in work force.

Spurgeon Will Talk On Adhesive Bonding

James Spurgeon will represent GD/Convair at the Western Engineering Conference and Tool Exposition of the American Society of Tool and Manufacturing Engineers in Los Angeles Oct. 1-5.

Spurgeon, who has been closely connected with development of GD/Convair's Scotchweld bonding process, will talk on "Adhesive Bonding Applications in Spaceframe Structures," at the Wednesday (Oct. 3) session.

Conference meetings will be held at the Ambassador Hotel with the Western Tool Exposition, including an extensive display of aerospace and airframe tools, at the Pan Pacific Auditorium.

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GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 21 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, October 10, 1962



SEMINAR NO. 8—Limned against sky are 41 GD/Convair men on concluding day of last value seminar, held during September.

Value Assurance Effort Pays Off

Value assurance "thinking" is showing results at General Dynamics/Convair as seminar teams are finding it more and more difficult to pare unnecessary costs from projects previously under value control scrutiny.

"We have definite evidence from reports of at least three teams in the last value control seminar that design engineers are becoming more and more conscious of cost control in relation to value at the very start of new company programs," said H. P. Williams, GD/Convair value control manager.

"However, no matter how intensely value assurance principles are applied to any particular item, a second—and even a third—look can always disclose some better means of doing a job or producing an item, shaving more off costs without lowering quality."

The 41 GD/Convair men concluding the eighth full-term value control seminar Sept. 21 found that, in several cases, it was difficult to suggest more than small savings on their projects.

"We attribute this comparatively small percentage to the value control training engineers on some projects received before design began," explained Williams. "This is vitally important!

"And, we now have reached the point where we can see definite proof that value assurance is becoming a way of life at GD/Convair."

Larger savings were chalked up by the team taking a good long look at streamlining the inspector's report procedure to reduce paperwork in the system. And, a reduction in manhours necessary for checkout of electric harnesses was suggested by one team when they found that use of a circuit analyzer could do the job in less time and with greater reliability.

Reliability, maintainability, and serviceability were especially stressed at the September seminar by special speakers. R. A. Krava from reliability engineering pointed out the close relationship of reliability and value control by stating, "Simplicity emphasized at the design stage will, in most cases, produce the lowest cost and the most reliable product."

R. K. Hall, field service supervisor, drew attention to the importance of careful consideration of maintenance and service of a project at the design concept to

(Continued on Page 2)

Small Fee Assures Emergency Blood

GD/Convair and GD/Electronics people are reminded that no more blood is available through the division.

Ken Wulfemeyer of employee services said that he still is receiving requests for blood contributions though the program was discontinued in July.

All employees are urged to sign up under the San Diego Blood Bank plan. Family membership for one year is $4; individual membership, $2. This assures blood in emergencies. No individual blood donation is required.

Application forms are available at employee services, Bldg. 32, Plant 1.

Parts in Work For C-141 Task

Production of parts that will go into the C-141 empennage is now well under way at General Dynamics/Convair with first assembly scheduled this week.

Most of the long-lead machine parts for the current order of seven empennages being built at GD/Convair for the Air Force jet cargo plane under a subcontract from Lockheed-Georgia Co., are in work, said N. P. Pearson, in overall charge of C-141 production.

Thousands of orders for detail parts have been released to the sheet metal department, which is well into the program. Cutting and contouring of the approximately 160 stringers for the vertical stabilizer and 60 for the horizontal is now in progress.

First cuts on the first rear spar for the center tie box, keystone for joining of the vertical and horizontal stabilizer, were made early this month on the large Rockford hydraulic profiler in Dept. 115.

As parts are fabricated they go to Bldg. 75 for alodyne processing before being stocked in Bldg. 2 where assembly operations are set up in the east bay area.

Assemblers, tabbed for C-141 tasks, were given 4-hour indoctrinations this week in unique features of Lockheed specifications and procedures for C-141 production.

The first major assembly of the vertical stabilizer will be loaded into the large fixture during the first week in November. This stabilizer is slated for the first flight empennage which will go through fit and functional testing at GD/Convair's ramp facility before it goes to Lockheed's Marietta, Ga., plant in April.

Flight Checkouts Accomplished For Swissair Version

GD/Convair's 990 jetliner, updated Swissair configuration, nears certification by Federal Aviation Agency this month as final FAA checkouts came to a close the end of September.

An FAA type certificate, allowing Swissair to put the latest 990 version into service, was expected by mid-October. Three Convair 990s in the program, Nos. 1, 2, 32, completed all phases—stability and control, performance, functional and reliability, and autopilot—on Sept. 28.

Winding up the two-month program was the functional and reliability 25-hour stint for No. 2 and completion of Sperry autopilot checks on No. 32 during the final week.

No. 2 spent the first two days of its F & R assignment in local flights exercising revised systems. The third day it flew from San Diego to Seattle, Wash., for a check of instrumentation for wet runway landing and braking, returning with a three-hour "cold soak" at about 35,000-ft. altitude via Boise, Idaho; Ogden, Utah; Edwards AFB, Calif.

Crew during F & R flights was: Pilots Don Germeraad, John Knebel, William Harse, Howard Auten of GD/Convair; FAA pilots, John Francek, Harold Strawn, Robert Bear, Carl Jacobson; GD/Convair flight test engineers, Warner Lowe and Al Hunt; GD/Convair flight engineers, Wayne Anderson, Dick Bloom, Jack Fogleman.

Assigned to No. 32 during autopilot checkouts were James Stuart, captain; Gene Whigham and Jack Fogleman, flight test engineers; Al Kosen, Gordon Brickson, instrumentation engineers; Everett Price, design engineer, all of GD/Convair.

FAA personnel included Carl Jacobson, pilot; C. W. Kaiser, Collier Walker, James Jorden, Kay Stampley, engineers; Harold Joynes, FAA flight test section chief from Oklahoma City base. Frank Hopkins represented Sperry Co.

No. 2 returned to Seattle the first of this month for a follow-on

(Continued on Page 2)



SOUVENIR—W. W. Petynia, NASA project officer for systems integration of Little Joe II launch vehicle, center, receives souvenir plaque bearing sample of corrugated skin to be used on vehicle. At left is N. R. Keough, GD/Convair superintendent; at right is J. B. Hurt, Little Joe program manager.

Comedy Writer to Show Aviation Films When Management Club Meets Oct. 24

Zeno Klinker, well-known comedy writer, will entertain GD/Convair and GD/Electronics members of the Management Club at the Oct. 24 meeting at Stardust Country Club in Mission Valley.

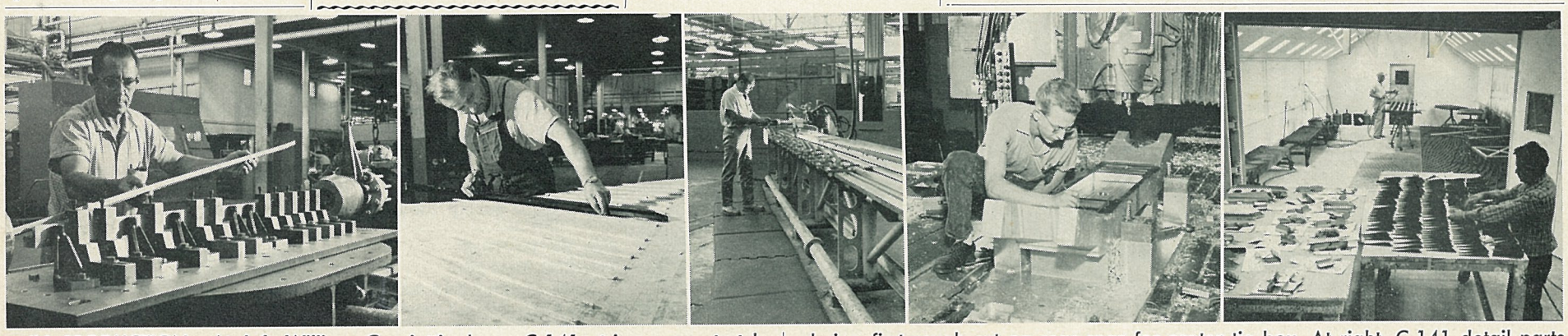
Tickets for the event, sponsored by industrial relations department, went on sale the first of this week at all regular outlets, said H. W. Rubottom, committee chairman. Price is $2.50 each.

Social hour starts at 5:30 p.m., followed by dinner at 6:30.

Klinker, a long-time pilot, will show and narrate his movies of rare and amusing aviation shots he has collected from all over the world since his first flight 30 years ago. He will be remembered as script writer for the Edgar Bergen-Charlie McCarthy show during the years it was a radio favorite.

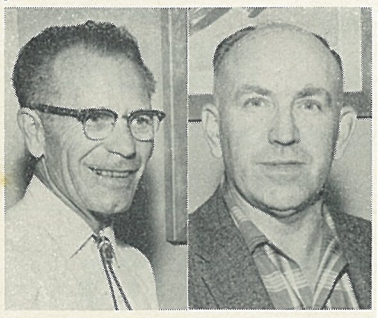
D. C. Wilkens Jr., director of industrial relations, will be master of ceremonies.

Assisting Rubottom with arrangements are H. E. Pasek, Paul Veal, V. L. Summitt, dinner tickets; F. G. Merritt, raffle tickets; J. K. Field, raffle prizes; M. C. Val Dez, entertainment; Dr. G. M. Clarke and S. H. Imdieke, publicity.



IN PRODUCTION—At left William Capriotti places C-141 stringer on stretch former and Julius Singer (both Dept. 101) makes sample tool from layout on plaster pattern. Center: Jose B. Perez (Dept. 101) makes cut on one of first long (291-inch) stringers. Second from right: R. T. Work (Dept. 115) checks measurement during first rough cut on rear spar for center tie box. At right, C-141 detail parts are in alodyne processing. Tom Garcia (foreground) sprays identifying numbers while George Adams (background) applies prime. Both are Dept. 102. Program manager J. M. Adamson said schedules are being met down the line.

Log Book Entries



Claude M. Bissell, Dept. 133, left, and William A. Neal, Dept. 140, wear new emblems on completion of 25 years GD/Convair service.

Service Emblems

CONVAIR

Service emblems due during the period Oct. 1 through Oct. 15.

Thirty-year: Dept. 140, W. P. Moore.

Twenty-five-year: Dept. 45, F. H. Nipper; Dept. 140, W. J. Cole; Dept. 171, E. C. Puterbaugh; Dept. 401-5, J. E. Mullican.

Twenty-year: Dept. 3, Alice E. Hamill, J. C. McCarthy, Alice W. Phillips; Dept. 44, F. R. Blake, Theodore Salazar; Dept. 48-62, F. L. Romig; Dept. 133, P. R. Jones.

Fifteen-year: Dept. 6-300, A. C. Phillips; Dept. 14-8, Matilda K. Lowenstein; Dept. 25-2, R. D. Snodgrass; Dept. 31, L. J. Boyer, E. E. Pollpeter; Dept. 48, R. E. Edgerton, Roma L. Knapp, F. J. Musselman.

Dept. 101, C. E. Fickas; Dept. 133, F. D. Hughes, T. H. Quelch; Dept. 140, D. A. Pegan, R. E. Rosekrans; Dept. 171, O. D. Andrade, A. M. Goodwin, Levell Kimble, L. A. Majel; Dept. 192, J. F. Campbell, Margaret W. Coulston, Ruth H. Stockton.

Ten-year: Dept. 6, J. A. Dall, O. F. Fatica; Dept. 14, J. W. Snodgrass, Harriet J. Wade; Dept. 48-95, Helen G. Cooper; Dept. 90-0, Floyd N. Anderson; Dept. 91, Irene E. Marr, Mary B. Showers; Dept. 128, E. P. Newman; Dept. 206, Victor Ruiz; Dept. 400, R. H. Webber; Dept. 401, G. A. Johnson, M. T. Nadeau, R. G. Stone.

GD/ELECTRONICS

Twenty-year: Dept. 72-00, D. O. Riseley.

Ten-year: Dept. 22-00, T. W. Moffett.

Promotions

CONVAIR

Promotions to or within supervision effective Sept. 24.

Dept. 6, Engineering: To. asst. chief engineer-systems integration, M. Dublin. To reliability specialist, W. L. Johnston. To manager of reliability, M. R. Seldon. To senior project engineer, W. E. Strohmeyer. To advanced systems group engineer, R. T. Sullins Jr.

GD/ADVANCED PRODUCTS

Dept. 986-1: To western regional manager, M. H. Stevens.

GD/ELECTRONICS

Dept. 10-00, General Manager's Office: To general manager, J. L. Lombardo.

Dept. 14-30, Plans & Programs: To senior requirements engineer, J. G. Melvin.

Dept. 22-00, Industrial Accounting: To manager of industrial accounting, T. W. Moffett. To tab asst. supervisor, D. R. Pearce.

Dept. 41-20, Material: To receiving & stores asst. foreman, F. W. Matson.

Dept. 73-30, Production Control: To manufacturing control supervisor, A. J. Catalano.

Rider-Driver

CONVAIR

RIDE or CAR POOL—7:30 a.m. to 4:15 p.m. from Poway to Plant 1. R. B. Hayes, plant ext. 2310.

RIDE or RIDERS—3:30 p.m. to midnight, from Carlton Hills to Plant 1. Gil McCoy, home phone, 448-2240, or plant ext. 681.

RIDE WANTED—7 a.m. to 3:30 p.m., from 4345 Illinois St. to Plant 1. Mae Hodges, AT-4-0840.

RIDE WANTED—3:30 p.m. to midnight, from 4345 Illinois St. to Plant 1. Nellie Diebold, AT-4-0840.

Personals

CONVAIR

My heartfelt gratitude to the Convair friends who displayed such warm friendship and understanding by their many kindnesses, cards, and beautiful flowers when I lost my daughter, Bonnie.

Harriet Bloodgood, Dept. 48-60.

* * *

I want my friends at Convair to know how deeply I appreciate their kind assistance at the death of my husband Beryl L. Wright.

Lavern Wright, Dept. 16-1.

* * *

The family of L. F. (Jim) Washburn wish to express their thanks and appreciation for the beautiful flowers and messages of sympathy in the loss of Betty Edmond Washburn.

Gay, Linda, and Bonnie.

Retirements

CONVAIR

CRAWFORD—William, Dept. 271. Seniority date April 14, 1952, retirement effective Aug. 16, 1962.

ERNST—Ole T., Dept. 215. Seniority date Jan. 9, 1951, retirement effective Aug. 26, 1962.

JUAREZ—H. E., Dept. 223. Seniority date Oct. 27, 1950, retirement effective Aug. 31, 1962.

LAKEY—William F. Jr., Dept. 146, Seniority date Oct. 1, 1956, retirement effective Sept. 28, 1962.

PARR—James O., Dept. 205. Seniority date Jan. 18, 1951, retirement effective Aug. 28, 1962.

PLAZA—Joe, Dept. 101. Seniority date Oct. 22, 1950, retirement effective June 24, 1962.

RICHMOND—Edward, Dept. 192. Seniority date March 8, 1951, retirement effective June 15, 1962.

WEESE—James M., Dept. 201. Seniority date Aug. 23, 1950, retirement effective Sept. 28, 1962.

Deaths

CONVAIR

BOND—Billy J., Dept. 401. Died Oct. 2. Survived by wife, Alice, and two daughters.

Value Effort Shows Results

(Continued from Page 1)

reduce the overall cost to the user.

Williams said that the next GD/Convair seminar will start for 40 more men by the middle of this month.

Projects, project leaders, team members and department numbers were:

Team No. 1—Access Door: R. J. MacDougall (6); O. Browning (25-1); E. V. Minch (20); Vernon Langpap (6); D. H. Quinn (23-3). Project leader, J. C. Hoover.

Team No. 2—Pod Door Lock: John H. Corbett (6); L. J. Solheid (16-1); R. L. Hayward (6); R. Villanueva (44-3); A. B. Oberg (31). Project leader, J. C. Hoover.

Team No. 3—New Business Proposal: J. R. Ernst (140); L. J. Koenig (6); G. A. Axt (34-2); R. D. Beemer (23-1); L. R. Hixon (6). Project leader, E. A. Catton Jr.

Team No. 4—SATS Mats Pallet: E. A. Ganoe (400); L. C. Smith (6); R. B. Albers (6); H. J. Lorenz (44-3); W. J. Durflinger (115). Project Leader, J. S. Williams.

Team No. 5—Food Trays: M. L. Sweeney (45-0); R. D. Howard (6); R. H. Williams (24); W. O. Johnston (6); G. M. Zelno (171). Project leader, J. S. Williams.

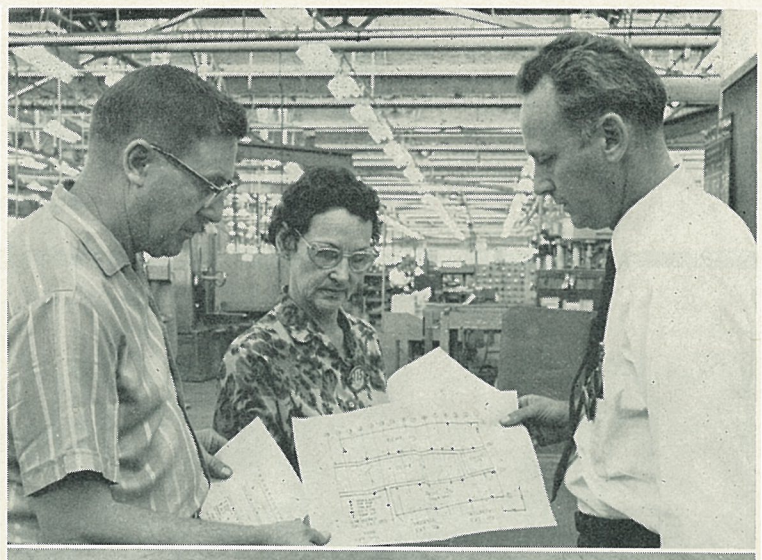
Team No. 6—Electric Harness Checkout: E. E. Carpenter (128); O. M. Schlensker (25-8); C. C. Harness (6); R. E. Dennington (24-4); M. Lepor (6). Project leader, B. T. McMicken.

Team No. 7—Inspector's Report Procedure: C. W. Alston (6); P. S. Vigneault (6); H. W. Balke (48); C. M. Bissell (133); F. M. Swinney (45); D. B. Tucker (400). Project leader, B. T. McMicken.

Team No. 8—Door Installation-Access: E. S. Needham (171); E. L. Moore (6); R. L. Trussell (6); W. H. McGann (34-5); R. D. Brumagim (23). Project leader, E. A. Catton Jr.



WELCOME TO CLUB—John L. Lombardo, General Dynamics/Electronics general manager, is greeted as member of Management Club as he hands application to E. R. Fink, club president.





SPOTLIGHT ON FIRES—In top photo Stanley Penziul, right, Dept. 115 assistant foreman, explains location of fire extinguishers to William Reader and Viola Cole as part of Fire Prevention Week observance. Below, Fire Marshal Hugh Rae shows Edna Z. Fodor (Dept. 129) how to use extinguisher.

Fire Contest Instant Success; Depts. in Hot Competition

So much interest was shown by GD/Convair people in the division's fire safety contest that the fire department couldn't find enough hands to answer all the phone inquiries during the last two weeks.

Calls poured into the station by the dozens, according to Chief Del Dimmitt, who said that response was far beyond all expectations.

Many supervisors sent their people in groups to learn how to handle extinguishers and alarm boxes; all briefed their functions on answers to items listed in the contest questionnaire; and a number even furnished diagrams pointing out locations of alarm boxes and extinguishers in their areas.

Over 500 people from the factory had attended demonstrations at the fire station through last week, said Dimmitt. These exhibitions will continue all of this week, National Fire Prevention Week, Oct. 7-13.

Firemen are demonstrating correct use of the different types of extinguishers used in the division. Five types are placed at strategic points to handle the various kinds of fire hazards. Soda and acid, and foam extinguishers are used on Class A fires — wood, paper, or trash blazes. Dry chemical and CO_2 extinguishers are for Class B, flammable liquid fires. CO_2 extinguishers take care of Class C, or electrical flames. Magnesium extinguishers are placed in areas using exotic materials, such as titanium or magnesium.

Up to presstime firemen had canvassed about half of the departments at Plant 1, Rose Canyon, and the ramp to score them on their fire safety knowledge.

Winner of the contest and "Miss Torch," chosen by the top-standing department, will be selected this week.

Heinemann, Richardson Named Dynamics' Vice Presidents

Edward H. Heinemann and Howard L. Richardson have been elected vice presidents of General Dynamics Corporation, Roger Lewis, president, announced last week.

Heinemann will have corporate-wide responsibility in the field of engineering while Richardson will be responsible for corporate planning. Both posts are newly created and both men will be located at corporate headquarters in New York.

Heinemann, formerly executive vice president of Guidance Technology, Inc., is a veteran of more than 30 years in the aerospace industry. Prior to 1960, he had spent 28 years with Douglas Aircraft Company, 22 as chief engineer at the El Segundo, California division.

In 1958, he was named corporate vice president with responsibility for combat aircraft systems. At Douglas, he was responsible for the design and development of many aircraft used by United States and NATO forces, including the Navy AD Skyraider attack-bomber series, the latest of which is the carrier-based jet A4D currently in production.

Richardson, former president of The Stanley Works, New Britain, Conn., has a long background in the electronics field. He spent 26 years with Sylvania Electric Products, beginning as a test engineer in 1933. He was named director of industrial relations in 1946 and was made a vice president of the company in 1951.

He was appointed vice president in charge of engineering and research in 1953 and three years later became vice president-operations. In 1958, he was named senior vice president of Sylvania's Electronics Systems Division. He joined The Stanley Works in October, 1959.

Directors to Attend Annual Convention

E. R. Fink, president of the GD/Convair Management Club, will head a delegation of GD/Convair club directors at the annual National Management Association convention in Buffalo, N. Y., Oct. 24-26.

They will conduct one of the table discussions during the convention's Idea Fair, which displays and explains successful projects and activities of the different clubs during the last year.

DELTA DIVERS TO SEE MOVIE

Delta Divers, CRA skin diving group, will meet Oct. 16 in the Convair executive dining room, Pacific Hwy., at 7:30 p.m. An underwater movie will be shown during the program, said Harry Rusciguo, CRA commissioner.

Jet 990s Will Link San Diego, New York

American Airlines will extend Convair 990 service to San Diego Oct. 28.

The new Astrojet flight will depart Lindbergh Field at 8:20 a.m., fly nonstop to Chicago, arriving at 1:30 p.m., and arrive in New York at 4:47 p.m., local times.

The return flight will leave New York at 5:30 p.m., depart Chicago at 7 p.m. and arrive in San Diego at 8:50 p.m. The plane will have an overnight layover in San Diego.

Flight Checkouts Accomplished For Swissair Version

(Continued from Page 1)

assignment—wet runway tests for American Airlines performance requirements. It was due to be in the Puget Sound city for perhaps as long as two weeks making landings and brakings on artificially soaked runways at Boeing Field-King County Airport.

Boeing Co. is cooperating closely in allowing use of its flight test center facilities and camera equipment spotted on the hillside paralleling the field, 119 feet above the runway level. Cameras in the plane and along the field will capture a photographic record of time history and landing distance for development of the optimum pressure for wet runway braking.

Aboard the plane were GD/Convair engineering flight test and field operations personnel, instrumentation technicians and photographers, and inspectors to assist in the demonstration for American.

Crew members were John Knebel, captain; Howard Auten, pilot; F. W. Chapman and Ed Guske, flight test engineers; R. M. Bloom, flight engineer; R. C. Schaefer, flight test control engineer; W. G. Walker and D. J. Frye, instrumentation engineers; R. F. Bausback, W. M. Addington, T. J. Fleck, data analysis engineers; and Gil Hofeller, flight test engineering coordinator.

Accompanying the plane to direct operations were E. D. Shannon, manager of engineering flight test; S. J. Barinka, assistant manager of production; and F. G. Brown, field operations foreman.

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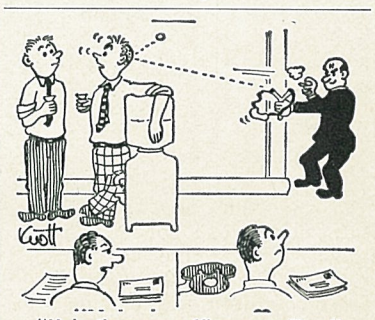
SWISSAIR UPDATING GETS UNDER WAY

Updating of Swissair's 990 Coronados got underway Sept. 20 at the airline's headquarters in Zurich, Switzerland, under the direction of a General Dynamics/Convair team.

First jetliner to go into the program was the last of Swissair's seven 990s, delivered Aug. 4.

GD/Convair men supporting Swissair's ground crews are Mel Clause and John Crenshaw, field service representatives augmenting the two permanent reps there, Frank Laffoon and Ed Buckman; J. R. Horner, tooling engineer; F. S. Pyatt, field operations foreman; J. C. Williamson, FAA designee inspector; and Bruno Bracka, liaison engineer.

At the San Diego plant Walt Kinney and H. R. Rhynsburger of transport service coordinate communications. With the eight-hour time difference, queries received from Zurich at the end of the shift arrive by wire over direct Swissair tie-in the morning of the same date; replies can be relayed back in time for start of work the next day at Zurich.



"He's the new office expediter."

General Dynamics NEWS

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Electronic Parts 'Pelletized,' Shrinking Size of Assemblies

"Electronic microminiaturization with potential for automated assembly" is a big thing at General Dynamics/Astronautics.

This multi-syllabled mouthful means simply that a double-headed threat is in store for conventional electronic assembly with its numerous parts in various sizes and shapes.

It means an assembly as big as an office desk may shrink to the size of a shoebox, and that tedious point-by-point soldering methods of assembly may give way to numerically controlled machine techniques.

Heart of this growing concept of electronic assembly is the "pelletized circuit."

In this approach, various electronic parts—capacitors, resistors, transistors, diodes, transformers, etc.—with sizes and shapes formerly as varied as their names, have taken on a uniform configuration.

They now appear as tiny pellets—.062-inches thick and .100-inches in diameter—regardless of function and characteristics.

Although GD/Astro is not alone in exploring the pellet concept, because of long experience and leadership in the field it is one of the first to utilize a full "family" of pelletized components.

Pelletized electronic studies are carried on in GD/Astro's electronic research (Dept. 592-5) headed by G. L. Mealey, chief.

Design Specialist Urho Hammer spearheads development efforts, working closely with Frank Unmack (Dept. 290-1) in the study of manufacturing applications.

In pelletized circuit assembly, the appropriate pellets (resistors, capacitors, etc.) are simply inserted in holes drilled in a supporting board (substrate). Before pellet insertion, grooves are milled in the board faces to connect various holes.

With the pellets in place, the grooves are filled with conductive cement, thus making every electrical connection at one time! Excess cement is ground off, a protective coating applied, and the circuit is complete.

In addition to such obvious advantages as high reliability, and reduced size and weight, the pellet packaging method is seen as adaptable to a wide range of uses, and is compatible with the most advanced electronic microminiaturization techniques.

As automated production becomes widespread, an "unplug the old, plug in the new" maintenance philosophy will be feasible, as costs will be reduced comparable to other methods.

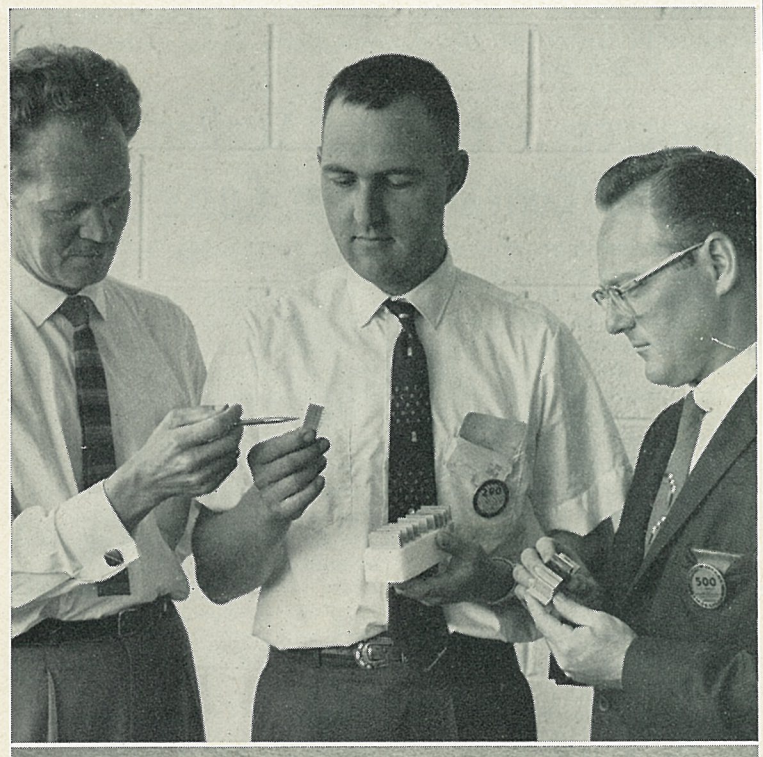
(At present, repair is easy: if a pellet fails, it is simply punched out of the substrate and a new one is cemented in its place.)

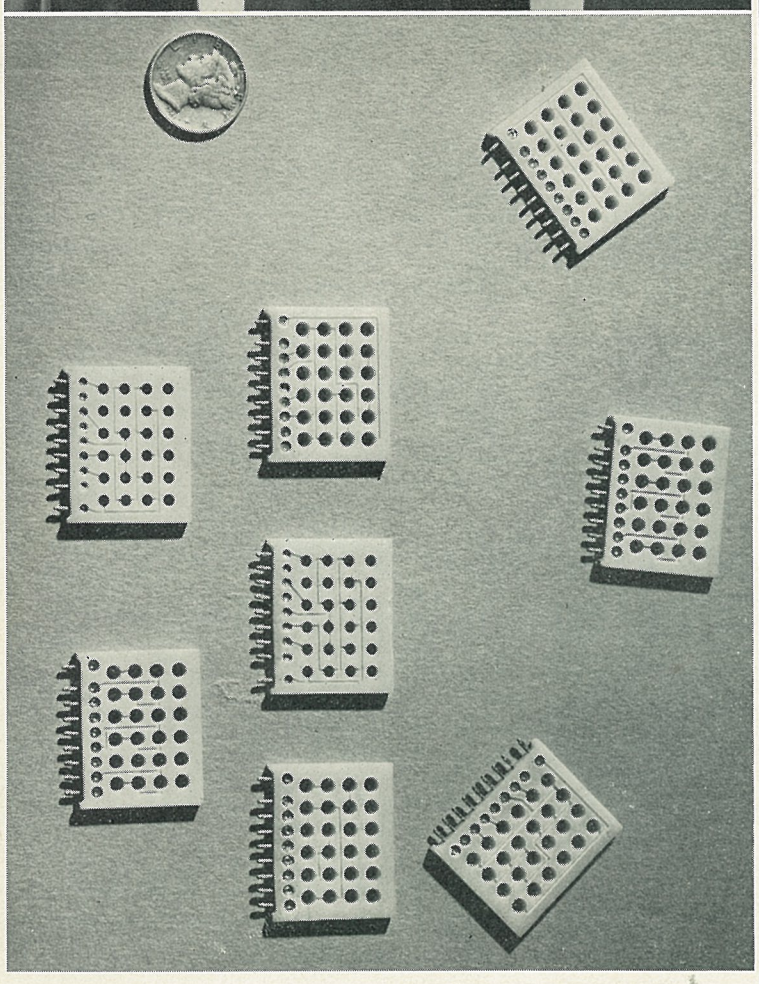
Unmack's studies of automatic assembly methods call for a computer battery (including the Stromberg-Carlson 4020 Data Processor and Printer) to work from a design program in producing numerical control tapes, drawings and printed information.

An automatic machine (now in the proposal stage) will work from numerically programmed instructions to prepare substrates, and load them with appropriate pellets.

The GD/Astro group is presently preparing two data processing component systems for Air Force and Navy use, and is in close liaison with General Dynamics/Electronics at both Rochester, N.Y. and in San Diego in applying the concept to advanced products.

Use of pelletized circuits in some GD/Astro electronic products is anticipated by mid-1963.





DIME SIZE—In top photo GD/Astro's Urho Hammer points out details on finished electronic substrate held by Frank Unmack. At right is George Mealey, GD/Astro chief of electronic research. In lower photo, tiny boards drilled to receive pelletized parts of uniform size are compared in size to a dime.

GD/Electronics at Rochester Developing System to Classify Underwater Sounds

A passive aural classification system for use on submarines is being developed by General Dynamics/Electronics — Rochester, N. Y., under a contract awarded by the U. S. Navy's Bureau of Ships.

The system is designed to help submarine sonar operators classify the sounds they hear through the ship's hydrophones. Using it, they can determine which sounds represent enemy ships and which are caused by fish, surf, or other marine phenomena.

The system is an outgrowth of research in target classification by means of underwater sound which has been in progress at Rochester for more than four years. The company's 400,000-gallon sonar test tank is used for the research.

Under the new contract, which is for $59,656, GD/E will build a prototype model of the passive aural classification system for evaluation and testing by the Navy.



Hotel Agreements Win Discounts For Dynamics Travelers

Special rates with Pick Hotels Corporation and Hilton Hotels and Inns throughout the country have been arranged for General Dynamics people traveling on company business.

Contracts with the two firms are part of General Dynamics' "Volume Purchasing Program" which currently involves nearly 70 different agreements covering multi-million-dollar procurement of materials and services which GD divisions use in common.

W. G. Evans, corporate director of materiel, predicted that the new agreements, if properly used by Dynamics travelers, will save a substantial amount through reduced rates. The entire Volume Purchasing Program, which has been in effect for a number of years, covers a wide range of commodities and represents a vast saving to the company every year, Evans reported.

"Obviously, much more attractive prices on many items can be negotiated when the potential volume of all General Dynamics' requirements is combined," Evans pointed out.

The arrangement with Pick Hotels and Hilton were negotiated by GD/Fort Worth, under an assignment from the corporate materiel office.

GD/FW Purchasing Agent Robert C. Ruddell reported that the Pick Hotels contract calls for a standard 10 per cent discount from standard rates. In addition, free reservation service for any hotel in the chain can be made from Chicago, New York, Washington, Atlanta and Milwaukee.

A maximum guaranteed rate is provided by the contract with Hilton Reservation Service.

"Based on previous reservation experience, we feel that this contract will result in a reduction of about 18 per cent from the rates normally charged."

Under the Hilton contract, all GD divisions have been assigned direct telephone lines through which they may make reservations free at any hotel in the Hilton chain.

"Every effort should be made to use these agreements," Ruddell said. "This can be done through your traffic department reservation service."

Pick Hotels are located at Birmingham, Chicago, Cincinnati, Cleveland, Columbus, Detroit, Evanston, Flint, Minneapolis, New York, Pittsburgh, St. Louis, South Bend, Toledo, Topeka, Washington, D. C., and Youngstown, Ohio.

Hilton Hotels are located at Albuquerque, Atlanta, Aurora, Ill., Boston, Buffalo, Chicago (2), Cincinnati (2), Cleveland, Columbus, Dallas, Dayton, Denver, Detroit, El Paso (2), Hartford, Houston, Los Angeles, Beverly Hills, New Orleans, New York City (3), Pittsburgh, San Francisco, Seattle, St. Louis, Tarrytown, N. Y., Washington, D. C., Montreal, and Honolulu.

Waters and Doyle To Deliver Talks

Two GD/Fort Worth employees are slated to speak before meetings in Fort Worth in October.

Dan Waters, division controller, will speak on "Budgeting, Forecasting, and Profit Planning" before the National Association of Accountants at 7:30 p.m., Oct. 18, at Worth Hotel.

A speech on "Value Engineering" will be delivered by C. W. Doyle, GD/Fort Worth spares value engineer coordinator, before the National Office Managers' Association monthly meeting at 5:30 p.m., Oct. 23, at Worth Hotel.

IRE to Hear Talk On Apollo Program

General Dynamics/Pomona employees are invited to a talk on the Apollo space program Oct. 17 at Dinnerhorn Restaurant, Covina, Ray Shields (Dept. 6), GD/Pomona representative of Institute of Radio Engineers, announced.

J. A. Corvi, assistant chief of the Apollo program for North American Aviation, will review the mission and mechanization of Apollo program together with space technology environment for the lunar operation.



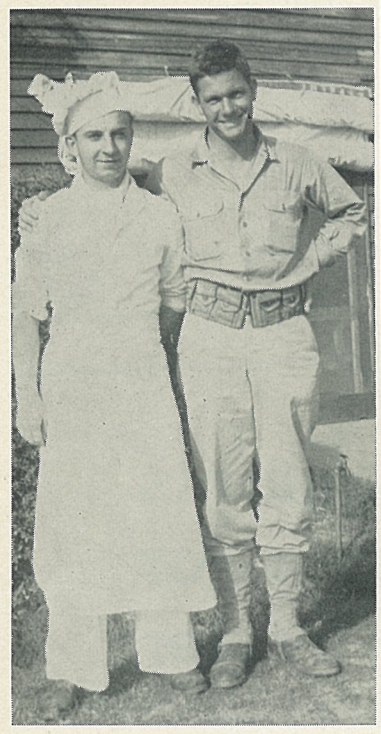
ARRIVAL—Air Force C-130A transport from Patrick AFB, Fla., is greeted by GD/Convair team on touch down right on minute, 10:34 a.m., Sept. 24. It will be in experimental 30 days from arrival for installation of new-type directional airborne antenna receiving system being developed for AF by GD/Convair.

A 'Cook's' Tour

GD/FW Man Reunited in Europe With Friend He Knew as POW

A friendship with a former German prisoner of war led to a two-week "cook's" tour of Europe recently for W. K. Browne, Dept. 24-1, GD/Fort Worth.

Conducting the auto trip across the continent was J. H. Seidel, a German who was captured in North Africa in 1943 and later sent to a POW camp at Donaldsville, La. It was here in 1946 that Browne, then a GI on special duty, befriended him.



REUNION — GD/FW's W. K. Browne, Dept. 24-1, is at right as he appeared in 1946 photo with German friend, J. H. Seidel, then serving as chef. They were reunited on tour of Europe recently.

Seidel, whose father was ousted from a government post in pre-war Germany for opposing Naziism, became mess sergeant at the Louisiana camp mainly because he could speak English.

"So you can see why he promised me a 'cook's' tour if I would come to Germany after the war," Browne said.

Driving Seidel's German-made Ford (a compact model), the twosome visited Holland, Belgium, Paris, Nice, Riviera, Italian Riviera, Genoa, Monaco, Milan, Switzerland and Austria.

"We were able to get along in all countries, since Seidel speaks English, German, Greek, Russian, Italian, and French!" Browne said.

A highlight was visiting Berchtesgaden, Hitler's retreat, still showing hits from artillery and small-arms fire.

"But most of the towns in Western Germany that had been hit hard by war have been rebuilt," Browne reported.

The tour ended at Seidel's home in Dillich, a small town in central West Germany, just across the border from where Seidel made his escape from East Germany in 1949.

Seidel's wife and two children watched the family general merchandising store while he and Browne made the tour.



1901 OLDS—Replica of early-age motor vehicle attracted much attention as it was being parked at GD/Pomona by builders J. J. Eirich, left, and W. C. Dysart (both Dept. 6). Two years of spare-time work and $650 in materials went into project.

Two-Year Job of Building Auto Of 1901 Vintage Ends: Cost, $650

Two General Dynamics/Pomona employees have built a 1901 Oldsmobile—complete with fringe on top. Two years of spare time work and $650 in materials were required.

W. C. Dysart, component test laboratory, and J. J. Eirich, Redeye project office (both Dept. 6), started by obtaining plans (cost $5). Working in Dysart's garage, they cut out the steel parts using 4 dozen hacksaw blades in the process. All wood parts were made by hand.

Purchased parts include head lamps, wheels, Clinton engine, Cushman transmission and 26x-2 25-inch tires.

While authentic in appearance the replica has some features never dreamed of in 1901. To meet motor vehicle code regulations, the two auto manufacturers had to provide modifications.

Sealed beam headlights, directional signals, stop lights and brake lights were added to the 400-pound vehicle. The state calls it a 1962 model (year manufactured).

The 1-cylinder 4-hp engine develops speeds up to 25 mph. Two speeds forward and one reverse are provided. Gas mileage experiments are in process with 60 miles per gallon expected.



Convair Son Sleeps With Padres Bat

Little Stephen Carter, going on 5, had the thrill of his life when he came home from his first big-league ball game recently with a real honest-to-goodness Padres bat.

The bat, a damaged one used by Chico Ruiz, Padres shortstop, became Stephen's most prized possession (and sleeping companion).

He was given the bat at one of the closing games of the season when his father, Bill Carter of GD/Convair motion picture section, took him down on the playing field to let him "touch" home plate.

Divisions Join To Form Value Control Group

Six General Dynamics divisions and the Corporation's Canadian subsidiary will join to establish a GD Value Control Committee, E. W. Feddersen, GD director of manufacturing engineering, has announced.

Value engineering experts from these divisions will meet at San Diego next month, Nov. 12-13, to organize a central committee for the purpose of fostering better planning for value programs, exchange of ideas, and shortening of lines of communication through personal contact.

Invited to the GD/Convair-hosted session are H. P. Williams of GD/Convair, E. D. Heller of GD/Pomona, George Robertson of GD/Astronautics, W. E. Emish of GD/Fort Worth, M. M. Reeder of GD/Electronics, F. Kohrs of GD/Electric Boat, and W. W. McKenzie of Canadair Limited.

Scientist, Engineer From GD/FW Honored As Paper Accepted

"Specification and measurement of reactor neutron spectra," a paper co-authored by Dr. John Romanko, staff scientist, and, Warren E. Dungan, senior nuclear engineer, of GD/Fort Worth's nuclear laboratories, has been accepted for presentation by International Atomic Energy Agency in Vienna, Austria.

Dr. Romanko will present the paper at the symposium on "neutron detection, dosimetry and standardization," to be held the week of Dec. 10 at the Rutherford High Energy Laboratories in Harwell (Berkshire) England.

United States participation in this international conference was arranged by the Division of Special Projects of the Atomic Energy Commission, which coordinated participation. Selection of papers for presentation was made by IAEA.

Many nations have been invited to participate, with papers to be given in four languages: English, French, Russian and Spanish.

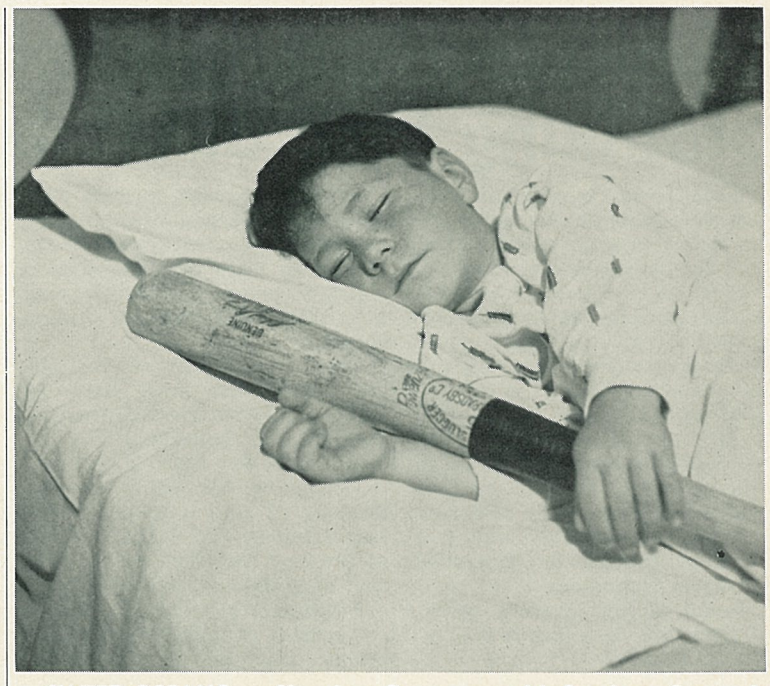
Data Assoc. Elects Bond and Krinitsky

Two General Dynamics men hold offices in the San Diego Chapter of Data Processing Management Association, following recent election of slate for the coming term.

Roy Bond of General Dynamics/Electronics data processing is national director and Harold Krinitsky of GD/Astronautics test evaluation is a member of the board of directors.

Newly-elected president of the organization, formerly known as the National Machine Accountants Association, is William Simons, chief of data processing for Ryan Aeronautical Co.

Save Material—Don't Throw Your Job Away!



SWEET DREAMS — Sleeping five-year-old Stephen Carter is snapped by father, Bill (GD/Convair Dept. 16-4), as he cuddles beloved Padres bat.

'Resources Economics' Section Eyes GD/Convair Power Costs

GD/Convair's annual electrical bill would keep about 3,500 homes well-heated and lighted for a year, at least in Southern California temperatures.

It costs the division over $1 million yearly to keep the machinery turning at Plant 1, Rose Canyon, and the ramp, pointed out Vern Sharp, chief of maintenance and construction, as he urged everyone to join in the battle on electrical costs.

Major factors in high usage of electricity are production machines, office machines, wind tunnel apparatus, lighting and air conditioning equipment. An average machine tool, such as a No. 5 or No. 6 milling machine in production machine shop uses over $200 worth of electricity a month.

Sharp listed several ways in which everyone can help keep down the expense:

1. Keep doors closed, as much as possible, in all air conditioned areas. (It takes three tons of air conditioning to maintain pace with one door left open for a short time.)

2. Turn off all machines when not in use.

3. Do not turn on lights in an area where they are not needed, and turn off lights when the area is to be left unoccupied.

4. Use only lights and electrical devices absolutely necessary for evening or weekend tasks.

"Conservation is everybody's business!" he stressed.

"Cooperation of employees has been exceptional to date, but all things can be improved.

"Our present and future contracts have and will be won in a competitive atmosphere of low costs, exceptional engineering, and reliable manufacturing. As we all know, bid contracts are submitted on the lowest cost possible, and this means we must keep our overhead expense to the very minimum."

In the last nine months nearly $50,000 has been slashed from electric power costs through projects initiated by Resources Economics section of industrial engineering in cooperation with the Utility Survey Corp.

Elimination of unnecessary lighting throughout the division has shaved $15,000 from electrical bills; reduction of weekend and off-shift kilowatt consumption has saved $23,510 to date; cancellation of an electrical alternate service agreement is saving $1,087 a month.

Other projects are under study, said Sharp, who urged anyone with a suggestion for electrical power conservation to call Resources Economics Center, ext. 1640, Plant 1, or mail it to Vic Janusz, coordinator of Resources Economics, mail zone 23-30.

$30,000 Cost Cut Accomplished By GD/Astro in Utilities Area

Changes instituted in the operation of heating, ventilating and air conditioning systems at General Dynamics/Astronautics are expected to result in savings of almost $30,000 in the coming year.

Such savings could constitute a healthy portion of a goal of $200,000 GD/Astro hopes to realize in reducing utility costs currently topping a million dollars annually.

Automatic programmers have been added to heating and ventilating systems serving Bldgs. 1, 2, 3 and 4. They shut off all systems at pre-set times. Plant engineering personnel handle the same assignments in other areas. Thus, unless these systems are required, they are shut down.

Resulting savings are shown in electricity required to operate such units as fans, pumps, etc. This savings will be over $15,000. Other savings are shown in reduction of natural gas required to operate boilers. This is calculated at about $14,400 for the next year.

Studies are now being made of all air conditioning units to determine possible areas where savings can be realized. A practice of shutting down all units promptly at the close of shifts is being followed.

Astro employees working in air conditioned areas can aid the effort greatly by seeing that all doors and entrances are kept closed at all times.

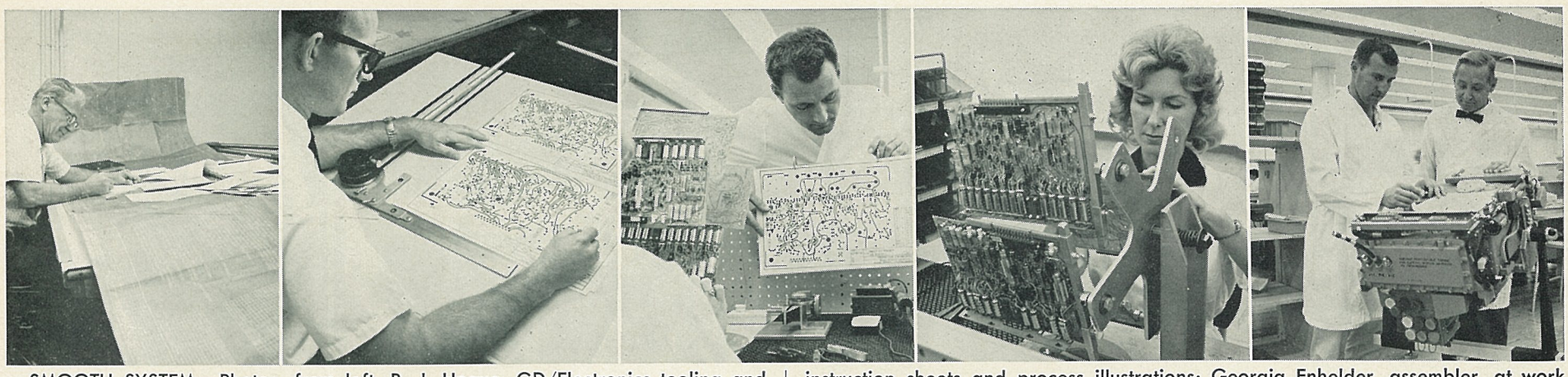
All Five JAL 880s at Work

All five of Japan Air Lines' Convair 880-Ms now are in service over the airlines' world-wide routes, following arrival in Tokyo of the last airliner early last month from San Diego where it had been in JAL pilot training.

Jerry Dugan, GD/Convair field service representative with JAL, reports that 880-Ms are scheduled for two daily round trips, Tokyo to Sappora; one round trip a day, Tokyo to Fukuoka; five round trips each week, Tokyo to Hong Kong; three round trips a week, Tokyo to Djakarta; and two round trips every week between Tokyo and London.

Inauguration of the Tokyo to London "Silk Road" flight was set for Oct. 4 following a proving flight on which Court Zeiss, GD/Convair rep, accompanied the crew.

Stops en route are at Hong Kong, Bangkok, Calcutta, Karachi, Kuwait on the Persian Gulf, Cairo, Rome, Frankfort, London, and return.



SMOOTH SYSTEM—Photos, from left: R. J. Hogue, GD/Electronics tooling and planning analyst, at San Diego, interprets blueprints to break down production task; F. L. Letzring Jr., illustrator, draws process sketches for placing components, each spelled out by color, bins, quantity, part numbers; R. L. Helton, planner, attaches instruction sheets and process illustrations; Georgia Enhelder, assembler, at work station; finished assembly, a modulator, signed off in final inspection by Darwin Olson with George Patrick of production engineering watching. Sequenced and concentrated system cuts costs, increases reliability.

Sports Car Leaders Of GD/Convair Speak

Two sports car experts of GD/Convair were heard on the radio program, "Sports Car News," over station KFMX-FM last month when they were invited to explain sports car activities of the division and the community.

Tom Kienholtz, president of the San Diego Council of Sports Car Clubs and winner of last year's "Sportsman of the Year" award, spoke Sept. 5. He described the function of the Council—its purpose, membership, and responsibilities relative to championship event codes.

H. W. Callihan, vice president of the CRA Sports Car Club, appeared on the same program Sept. 15 to outline the history and activities of the Convair group.

Wives' Auxiliary Will Lunch Oct. 17

Astro Wives' Auxiliary will hold its monthly luncheon meeting Oct. 17 at Rose Mandarin Garden, 8552 La Mesa Blvd., La Mesa.

Social hour opens the event at 11:30 a.m., with luncheon at 12:30 p.m. Special guest speaker is Gil Hutter, Prophet Co. cafeteria manager at GD/Astronautics, who will give a cake decorating demonstration.

Reservations may be made with Mrs. Louis Ferriera, BR-3-7634, through Oct. 15. Wives of all GD/Astro employees are welcome to take part in activities of Astro Wives' Auxiliary.

New Streamlined Assembly System Adopted by GD/Electronics at SD

A "containment" policy can be applied as effectively to limited production as to limited warfare, say General Dynamics/Electronics production engineers who have evolved a system which is streamlining assembly of electronic units at the San Diego facility.

The system, unique in that it confines all operations necessary for assembly of any one type of electronic unit to a designated production area, is designed primarily for orders of 100 to 250 units.

Sub-assembly is defined in terms of each operation to be performed, work station location, equipment and hand tools for each operation, plus the time required to perform each operation.

"This method replaces the former assembly method which requires an assembler to work directly from blueprints and stock lists without any idea of the assembling order or description of parts or where they should be placed," explained George Patrick, supervisor of methods, process specification, and production plans. "The sequenced method drastically cuts the amount of time involved in figuring out where to start and what to do next."

Production engineers sequence all assembly operations to provide minimum operation cycles and increased efficiency through specialization. Production areas are identified, divided into work stations based on 40-hour tasks. All parts used on a station are stocked in marked compartments in sequence ready for use. Production aids, holding fixtures, and special tools required for the task are located on-station. Personnel are assigned to these stations with attention to special training, talent, or abilities. Proper "personal" tools for each operator are determined and required. Tools that may damage parts are prohibited. All special tools are furnished by GD/E.

"We can credit this 'containment' type of production as a major step in placing GD/Electronics in a competitive position in the field of military electronics," said J. P. Morris, manager of production engineering.

"The operator is trained for one type of assembly. Thus, with all operations sequenced, she becomes thoroughly familiar with the particularities of the assembly and can achieve the highest level of consistency and quality."

J. H. Thompson, GD/E manager of operations, enumerated further advantages of the step-by-step concentrated method of limited production, namely, "lower unit cost, faster delivery, and higher reliability."

Detailed operation sheets together with graphic illustrations spelling out each assembly step set the system into motion.

"Production engineers work directly with operators at the work stations, helping them to understand perfectly all instructions and incorporating improvements suggested by operators themselves if they find a more efficient step in the paperwork or sequencing. Planners are assigned to each type of 'black box' to maintain all stations assigned to its manufacture," said Patrick.

GD/Convair Clubmen Are Pomona Guests

Four officers of the GD/Convair Management Club were special guests of the GD/Pomona club at its Sept. 14 meeting.

L. G. Lawson, past president, attended in his official capacity as president of San Diego Area Council of NMA. E. R. Fink, GD/Convair Management Club president, also was present, together with Paul Hamm, first vice president, and Ralph Montgomery, second vice president.

GD/Astro Folk at Vandenberg Boast Varied Sports Program

VANDENBERG AFB—Another season is under way here for what is probably one of the most active ARA-sponsored recreational programs operated for off-site personnel within General Dynamics/Astronautics.

This installation began its recreational program almost as soon as enough employees were on hand to form a bowling team. Since then it has continued to grow, both in participation and the number of activities available to Astro families.

Ross Workman, employee services representative here, is a key man behind the program. A Certified Industrial Recreation Administrator, one of two at Astro, he has guided the program for a number of years.

The ARA Employees' Council here guides all activities. Current officers are E. C. "Gene" Sims, president; E. A. "Ernie" Millar, vice president; A. B. "Augie" Daddi, treasurer; and C. A. "Arlene" Barnell, secretary. Council members include M. R. "Don" Wilson, bowling; D. M. "Don" Jardee, boat club; James Batson, golf; R. L. "Pete" Peterson, softball, Sam McCullum, basketball; and two acting commissioners, Katherine Goin, horseback riding, and Leo Bernitz, rod and gun club.

Aiding the program are natural surroundings featuring hiking, swimming, fishing, hunting, etc. as well as bowling and other sports. Both the cities of Lompoc and Santa Maria welcome Astro participation in civic recreation programs.

Planned for this fall is the annual all-Astro picnic which takes the form of a clam bake at Pismo Beach this year for the first time, Workman said.



AROUND ASTRO BASES—GD/Astro folk at Vandenberg AFB have been among most active in recreation programs off-site. (1) Ross Workman, right, employee services, checks golf handicaps with Otis Tucker and Marilyn Murray; (2) and (7) are photos of Vandenberg basketball team that will see action this fall; (3) golfers turn in cards for sweepstakes; (4) deep sea fishing out of Morro Bay is popular with VAFB people; (5) 1961 bowling trophy winners. (6) Craig Bramley of industrial relations at Walker AFB presents new bicycle to Alonzo Orosco whose old bike was washed out in a truck collision. Alonzo suffered minor injuries. (8) Walker AFB Astro Wives Club held style show recently. Among models were, from left, Donna Magee, Karen Mooney, Marilyn Mooney, Cleo Magee.



MOUNTAIN WEEKEND—Autumn trip to Big Bear drew good representation of GD/Astro, GD/Electronics and GD/Convair folk. Sponsored by ARA-CRA Ice Skating Club, weekenders did more than skate. At left Bob and Peggy Clauser demonstrate Cha-Cha, while in next photo Jeanne Davis, Colleen Gilliland, Jeff Davies, Kim Gilliland and Pam Chana toast marshmallows. At far right are Esther Germeraad and Jeanne Davis.

Dynamics Sailplane Pilots Will Compete at Elsinore

General Dynamics soaring enthusiasts will be among San Diego entries competing in weekend events Oct. 27-28 at Skylark Airport, Elsinore. The fall soaring meet is co-sponsored by Convair Recreation Association Glider Club and the Associated Glider Clubs of Southern California, Ltd.

Contestants and meet officials will include Walter Mooney of General Atomic; Duke Stallings, CRA Commissioner Gene Whigham, and Paul La Frenier of GD/Convair; Gene Cain, A. J. Owens, Oakley North, J. W. Petre, and Sterling Starr of GD/Astronautics.

Approximately 20 pilots are expected to compete, said Whigham, with 10 to 15 sailplanes anticipated.

Saturday's task will be for maximum distance flying. Sunday's event will be a race horse start speed dash around a triangular course. Prizes will go to pilots making the three best flights each day. Scoring is on a handicap basis.

"Elsinore fall weather is pleasantly warm and just right to provide many thermals for good gliding," said Whigham, who emphasized that spectators are invited to attend.

A dinner meeting Saturday evening will feature movies and slides taken during the National Soaring Contest at El Mirage in August.

Check of Payroll Stubs Urged to Bare Inaccuracies

General Dynamics/Astronautics employees everywhere are being asked to check their payroll check stubs this week for correct address and Social Security entries.

Division records show many employees to have incorrect addresses and in some cases no addresses. The same holds true for Social Security numbers.

Shortly after the first of the year 1962 Federal Withholding Tax Statements (Form W-2) must be prepared for all employees and the information mentioned must be obtained for correct delivery. Too, incorrect Social Security numbers prohibit Astronautics from making proper application of taxable wages to the Social Security Administration.

Here's the correct procedure to follow:

Addresses that are incorrect or do not show can be corrected by completing a "Change of Address" (Form 14449 CZ) card available at all time clocks or through timekeepers. These are to be forwarded to financial accounting, mail zone 191-02, at the main plant.

Incorrect or no Social Security listings should be reported directly to the employment section of industrial relations, mail zone 130-6, at the main plant. Include both the number now appearing on the check stubs and the correct security number.

Salvage Yard Sked

Salvage yard schedule for next four weeks:

GD/Convair—Oct. 13, 27.

GD/Astro—Oct. 20, Nov. 3.

GD/Astro Hams To Hear Evans

Under direction of Club President Bill Hemingway, ARA Radio Club is presently compiling a directory of licensed amateur radio fans employed by GD/Astro.

At its meeting at 7:30 p.m. tonight (Oct. 10) the club will feature Clifton Evans (K6BX) as guest speaker, internationally known in radio circles for his numerous publications on electronics, and for his monthly directory of amateur radio awards.

Reliability Control Appointments Made;

Appointments within the General Dynamics/Astronautics reliability control department have been announced by P. I. Harr, director of reliability control.

A. J. Woodington has been named manager of standards and calibration laboratories, reporting directly to Harr. In his job Woodington will have responsibility for all Astronautics calibration activities which are now consolidated under reliability control.

Three assignments within the Atlas weapons system (AWS) organization have been announced with all reporting to D. R. Archibald, AWS reliability control project manager.

Named quality control chiefs were G. E. Briggs for checkout and acceptance and R. E. Steele for off-site activities. I. E. Wissner heads administration and audit functions in the AWS reliability program.

Brouillard Named GD/E Program Mgr.

General Dynamics/Electronics-San Diego has announced appointment of Rex L. Brouillard as manager of program administration.

In that position Brouillard will be responsible for preparation of technical proposals which GD/E submits to government agencies and to other potential customers. In addition his organization monitors the various programs while they are in production in order to determine schedule and cost status.

A veteran of 20 years in the Air Force, Brouillard retired this summer as a lieutenant colonel.

Slide Show Repeat Set For 2nd Shift

A slide show from the American Numismatic Association will entertain members of Coineers, ARA coin club, meeting, at 7:30 p.m., Oct. 17 in ARA Clubhouse.

A second-shift club unit will view the show at 1:30 a.m., Oct. 18, when a business meeting, display competition and swap session are planned.

Garden Clubs Set Show Date

Garden Clubs from GD/Convair and GD/Astronautics join forces Nov. 4 to present their annual Fall Show at the Floral Association Building, Balboa Park.

Commissioners Eugene Zimmerman (CRA) and Everett Henderson (ARA) have announced eight divisions, with a best of show award for each, as well as from two to six classes in each division.

Chrysanthemums, arrangements, corsages, roses and children's division events will be featured.

In Division One will be single chrysanthemums, while Division Two will include three blooms, Division Three features cushion type pompons and Division Four, button mums.

Division Five will include six classes in arrangements. Division Six will handle corsage entries. Children will compete in two age groups, 5 to 11 and 12 to 16 years, in Division Seven. Division Eight will feature roses.

Entries will be accepted from 7 until 11 a.m. Judging follows at that time, with the show open to the general public without charge from 1 until 6 p.m.

Sr. Flight Test Engineer Dies

Funeral services for C. A. "Charlie" Walruff, senior flight test engineer at GD/Astronautics, were held Sept. 26 in San Diego. Walruff died unexpectedly Sept. 20 while attending a physical education class at San Diego State College.

Walruff joined Astronautics in 1956 after retiring from the Navy as a commander the previous year. He enlisted in the Navy in 1924 and moved into the commissioned ranks in 1942.

One of his early assignments at Astro was to help activate static test sites at Edwards RS and Sycamore Canyon. Recently he has coordinated reports between engineering staffs at the home plant and test bases.

During World War II King George VI cited him with the Most Excellent Order of the British Empire for development work in airborne radar techniques.

Don McClarren Tennis Winner

Ten members of ARA Tennis Club were represented in San Diego Industrial Recreation Council's tennis tournament which concluded last week.

Winner of men's consolation singles was Don McClarren, Dept. 522-2, who defeated Ron Geist. Dept. 145-5, in a 4-6, 6-3, 6-1 match.

Last year's doubles champions in the event were Astro's Larry Chambers, Dept. 305-0, and Ben Cendali, Dept. 573-2. Teaming up again for this year's tussle, they yielded in the semi-finals to a Solar team who later captured the doubles crown.

CRA Car Club's Economy Run Won by Astro Driver Smith

Sweepstake honors in CRA Sports Car Club's September rally, the Eagle Eye II Economy Run, went to E. L. Smith of the Astro Sports Car Club.

Smith navigated the 160-mile course in his Alfa-Romero with a fuel consumption of 56.4 ton-miles per gallon.

Twenty cars drove the back-country route through Campo, Julian, Ramona, Lakeside, and back to San Diego in the all-day Sept. 30 rally, headed by Chase Allen as rally master.

Allen said that the efforts of Astro Radio Club members manning checkpoint control were invaluable.

Other winners were Clark Kerr Jr., best Convair Sports Car Club driver; Smith, best Astro club driver and first in Class A, displacement of under 1,300 cc; E. N. Yeaton of Astro, first in Class B, 1,300-1,599 cc; Martin Larson, first, Class C, 1,600 to 2,699 cc; Kerr, first, Class D, over 2,700 cc.

ARA Commissioner E. S. Penick topped the sedan class with performance of his '53 Studebaker coupe. Penick also stood second in overall scoring.

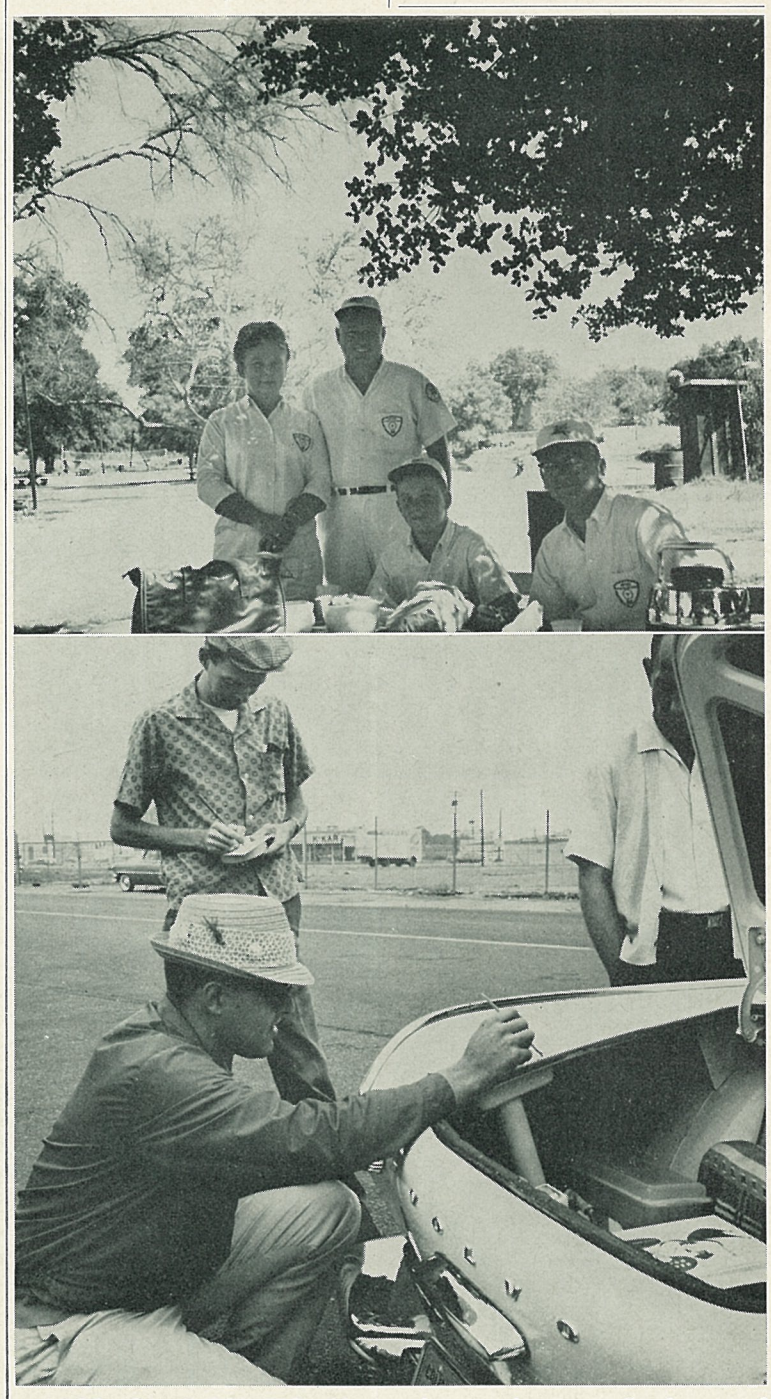
CYCLISTS INVITED FOR 'POKER RUN'

Invitations have gone out to cyclists throughout Southern California and Arizona to take part in an Astro Motors-sponsored "Poker Run" starting at ARA Clubhouse Oct. 21.

This is an invitational event expected to draw both individual and club participation.

Entries will depart from 9 until 11 a.m., then cover a 110-mile course laid out in San Diego County, returning to the Astro plant later for timing.

Next regular Astro Motors meeting will be at 7:30 p.m. Oct. 17 at the ARA Clubhouse.



"ECONOMY" DRIVERS—Upper shot catches overall winners of CRA Sports Club Economy Run, Mr. and Mrs. Elmer Smith of Astro, standing, and ARA Commissioner E. S. Penick and son, at Picnic Lake Park. Lower photo was taken at starting point with Dick Perkis of CRA club sealing gas tank of Martin Larson's Volvo while John McKay records technical inspection.

Sports & Recreation

Sports Car Fans Expect 100 Field Day Entries

Entries are open now for CRA Sports Car Club's biggest event of the year, Field Day '62, which is expected to draw well over 100 entries and thousands of spectators Nov. 4 at Ream Field.

CRA Commissioner Gerry Wright said that this probably will be the largest affair ever sponsored by the Convair group, which was invited by the U. S. Navy to hold the championship event as a highlight of Ream Field Fair.

All proceeds from the Fair and the Field Day '62 event will be donated to the United Community Services Fund.

Anyone with a sports car is eligible to participate. CRA Sports Car Club members will not compete as they will be handling arrangements, said Wright.

Entry blanks are available at both Convair and Astro employee services, from bulletin boards throughout the plants, from import car dealers in San Diego, and CRA club members.

Mail entries will close Oct. 28.

Post entries will be accepted, but only the first 100 entries will be eligible for dash plaques and entry fee will go up 50 cents for post entries. Pre-entry charge is $3 a car; post-entry, $3.50.

GD/Electronics Folk Invited To Halloween Dance Afloat

GD/Electronics people in San Diego will make merry on a "floating night club," at a Halloween celebration the night of Oct. 27.

The excursion boat, Marietta, has been reserved for a GD/E party that evening from 8 p.m. to 1 a.m. All GD/Electronics personnel at Plant 1 and Hancock St. facility are invited to join in the fun and dancing while the boat cruises the harbor.

Tickets are on sale at $3 per person as long as they last. They may be purchased at the offices of J. L. Lombardo, GD/E general manager, and Dr. Don Wahl, second floor of Bldg. 51, Plant 1; J. H. Thompson and H. J. Stuart, ground floor of Bldg. 51; and Clete Klein at Hancock St.

Costumes or sports clothes are in order, said Dotti Wilson, chairman of the arrangements committee, who emphasized that it would not be a "dressy" affair. Those planning to attend must be aboard the Marietta, at the foot of Broadway before 8:30 p.m.

Frank Sisson New Champion In CRA Handicap Golf Meet

Frank Sission (Dept. 6) won the annual CRA plant handicap golf championship in match play Sept. 8, 15, 22 over Carlton Oaks Country Club course.

Sission took the championship flight finals 1-up over Mel Doerr, Dept. 133.

M. C. Val Dez (Dept. 3) was first-flight winner, 1 up, over Fred Wells, also Dept. 3.

Other winners were William McCarthy (Dept. 6), second flight; Bob Fagan (Dept. 6), third flight; Bob Baker of GD/Electronics, fourth flight; George Nichols (Dept. 6), fifth flight; Fred Kershaw (Dept. 215), sixth flight.

Runners-up were Jake Moore (Dept. 24), second flight; John Jodka (Dept. 91), third flight; C. Costantino (Dept. 6), fourth flight; Dick Olney (Dept. 48) fifth flight; Jinks Janssen (Dept. 14), sixth flight.

Code Classes Rescheduled

Popular demand has resulted in rescheduling CRA code classes to help aspiring "hams" get their amateur radio licenses, announced Jim Lack, commissioner of the GD/Convair Radio Club.

First class was held last week, but any member or friend of a GD/Convair or GD/Electronics family may still sign at tonight's session, Oct. 10, at the club's Harbor Drive headquarters.

The course will run about 10 weeks on Wednesdays from 7 to 8:30 p.m.

George Spanovich and L. D. "Red" Rush of GD/Convair are sharing instructor duties, assisted by other Radio Club members when necessary.

GD/E WIVES INVITED TO CLUB MEETINGS

Wives of General Dynamics/Electronics men are invited to attend monthly luncheon meetings of the GD/E Wives' Club, open to both Plant 1 and Hancock St. families.

Luncheon for this month is scheduled for tomorrow (Oct. 11) at the OceanHouse on Pacific Hwy. A no-hostess cocktail hour is held at 12:30 p.m. with luncheon following at 1 p.m. Price is $2.35 including tax and tip.

Anyone wishing to meet other GD/E wives is welcomed without reservations. For information concerning the GD/E Wives' Club ladies may call Mrs. D. A. Siebenaler, CO-2-1189.

Ralph Picard Joins Pistol Club's Team

Three CRA Pistol Club sharpshooters kept their spots on the club's pistol team for the next quarter by virtue of high scores in Short National matches during the last three months.

Vern Mardis (Dept. 34), Jim Halfacre (Dept. 140), and Joe Williamson (Dept. 401-5) will represent the club for another term. New member of the foursome is Ralph Picard of GD/Electronics.

Their aggregate scores during the quarter just ending were Mardis, 786; Halfacre, 774; Williamson, 750; Picard, 710.

Mardis and W. G. Walker (Dept. 6) stood one-two in the master class at the Sept. 23 shoot, breaking a tie of 286 with Mardis' 12 bull's-eyes over Walker's 5.

In the Police Course expert class Ralph Patterson (Dept. 27) was first with 283; Picard, second, 276.

Mardis also took the .45-cal. Short National with 244. Picard had another second with 215 and Patterson came in third with 212.

Next CRA shoot will be this Sunday (Oct. 14) at the Police Pistol Range, Federal Blvd. and Home Ave., at 9:15 a.m.

Albacore Wins Fish Contest

A 42-lb. albacore caught 40 miles off Point Loma won top money in CRA Fishing Club's August contest for C. E. Stuart (Dept. 756).

Stuart collected his $15 cash prize at the September club meeting.

R. L. Haman, retired from Dept. 31, won $10 for a 36-lb., 4-oz. blue fin tuna.

G. G. Grantham came out with more fun than money in his battle with a 20-lb., 6-oz. salmon hooked with a fly rod and 6-lb. monofilament line from the Klamath River while on a vacation fishing trip in Northern California. He drew $5 for third place.

Honorable mentions went to Donald McDaniel, son of Earl (Dept. 400) for a 6-lb., 13-oz. barracuda and to Guy Himes, GD/Convair retiree, for his 7½-lb. channel catfish.

Fishing took a holiday last month with not a single entry listed, said Bob Menzie, CRA commissioner. For the next few months only one $10 award will be given for top entry. The usual three first places will be rewarded with cash again in March.

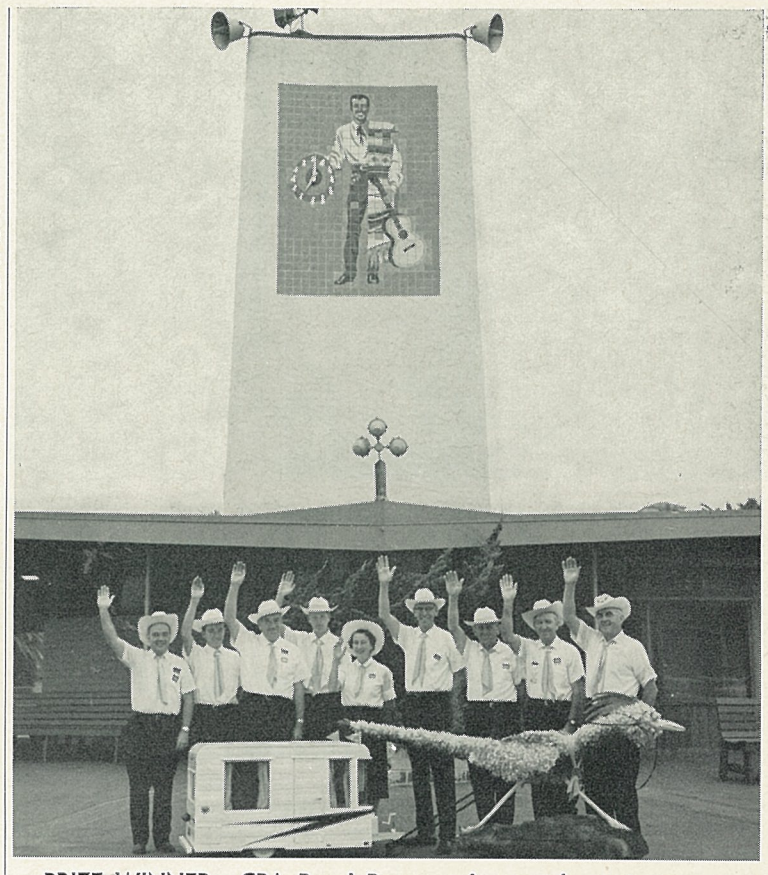
Fishing Club members will hold their regular meeting next Tuesday (Oct. 16) at Gillespie Field Clubhouse, 7:30 p.m.

CRA Road Runners To Visit Pine Crest

CRA Road Runners will travel to the new recreation area at Pine Crest, near Julian, for their Oct. 27-28 weekend outing.

A regular meeting is set for next Thursday (Oct. 18) at Gillespie Field Clubhouse, 7 p.m.

Plans are being made for an en masse turnout at the TTCA rally in Hemet next month.



PRIZE WINNER—CRA Road Runners, in parade costume, group around model trailer and "road runner" which helped them take first place at recent TTCA Border District rally. From left are Harry Rush, Tom Hurley, George Hurley, John Peterson, Lee Hurley, Ivar Peterson, rally co-chairman, Joe Sopko, Commissioner Ralph East, Ed Wawrzynski.—Photo by Ron Ainsworth of CRA Camera Club.

Road Runners Triumph In Costume Parade

CRA Road Runners literally walked away with top honors at the annual rally of Border District Trailer Clubs of America when they were awarded first place for their costume parade entry.

Competition was so stiff that the Road Runners received the decision only after they and three other club entries were called back to walk by the judges' stand for another look.

Commissioner Ralph East credits the CRA group's perfectly-designed and equipped miniature trailer, pulled by an electrically-propelled blue crepe paper "road runner," for winning them top spot.

Members paraded in identical costumes of white shirts, pastel pink ties, black trousers or skirts, and white cowboy hats. Heading the unit was a color guard of five teen-agers with a teen-age trumpet and sousaphone duo bringing up the rear.

Last year, the Road Runners took second at the same event.

Over 1,000 trailerites from 15 West Coast groups gathered at the Del Mar Fairgrounds for the third annual rally Sept. 27-30. The GD/Convair club turned out 94 strong in 21 member trailers and four visiting vehicles for the largest club representation. Mission Bells tied in number of units.

Other awards won by the CRA club was a third in hobby craft exhibits with the display of model cars made by GD/Convair sons, John Peterson and Tom Hurley. Tilli Sopko tied for first in the original hat contest with her headpiece of a tall manzanita bush full of bright bouncing canaries balanced on a pie plate.

A lively exhibition of hillbilly square dancing was put on by a square of male Road Runners, half of them exotically dressed as "broads." Taking the part of the girls were Carl Scholl, Carl Monds, Joe Sopko, Harold Perkins. Their partners were Melvin Meggison, Jim Devin, Lee Rogers, Jim Becker. Ray and Loretta Devin were callers and directors.

Designers and builders of the 5-ft. third-scale trailer were Ivar and John Peterson, Joe Sopko, Lee Kunkle, Ed Wawrzynski, George and Tom Hurley. Mrs. Hurley took on upholstering chores.

Alma Hanson, Frances Rush, and Ruth Peterson were in charge of parade arrangements with Ivar Peterson, co-chairman of the rally.

Commissioner East said that the prize-winning parade entry will be seen in other parade events in the San Diego area this fall.

BALLROOM DANCING COURSE OFFERED

Special ballroom dancing instruction still is open to all General Dynamics people in San Diego at reduced price at Margo Pettit Dance Studio, operated by Zena Flores of GD/Convair.

General Dynamics dance night is Thursday from 7:30 to 8:30 p.m. at the Ocean Beach dance school, 5025 Newport Ave.

Gerald Williams, professional dancer, instructs the ballroom dance class, open to beginners as well as advanced.

Reduced rate for General Dynamics persons and members of their families is $5 a month for a lesson each week.

Other classes are held Tuesday and Thursday evenings and Saturday mornings for children in ballet, tap, tumbling, character dancing including Russian, Spanish, Hawaiian. A women's conditioning class is conducted Tuesdays at 6:30 p.m.

Registration can be made by calling the studio evenings, AC-3-1533; or BR-3-1622 and BE-2-8693, days or evenings.

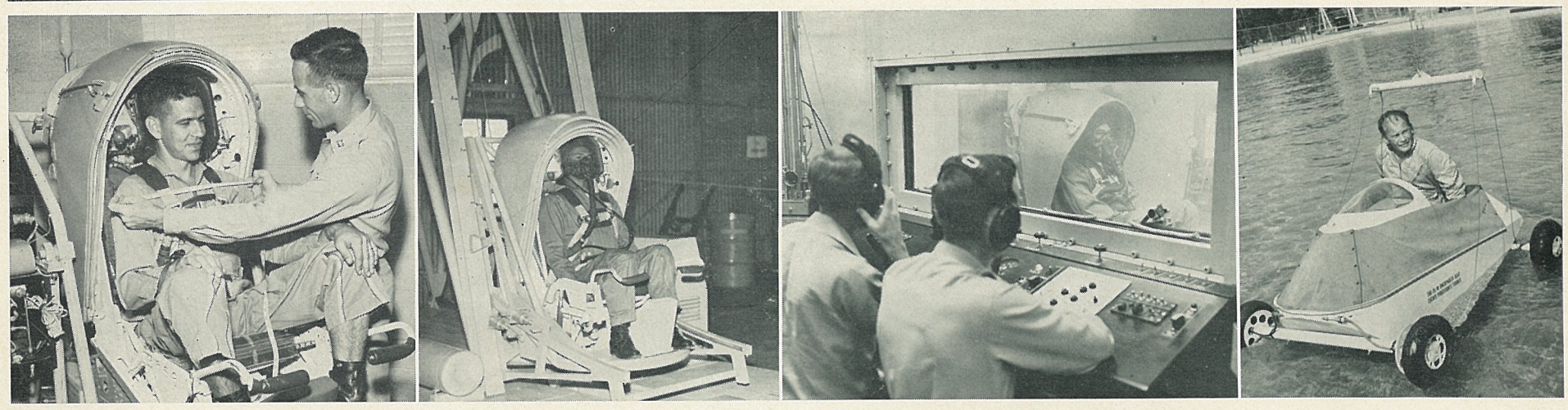
V. V. Thomason Judges Astro Horse Show

V. V. Thomason, president of the CRA Riding Club, was sole judge of the all-day All Western Horse Show held Sept. 23 at the Astronautics arena.

Sponsored by Astro Riding Club, the show attracted 175 entries in 20 classes. High-point winner of the day was 14-year-old Mary Susan Brotherton.



TRAIL BREAKERS—At left are Paul, on Shetland stallion, and Betty, riding Palomino parade mare, son and daughter of GD/Convair's Roy Sims, all set to start 17-mile ride through Cuyamaca Mountains during last CRA Riding Club outing. At right is Bobby Hill, son of Jim, outing chairman, and, in center, Vern Logan (Dept. 215), who led riders over most of winding trail.



SEQUENCE—B-58 crewmen are undergoing survival training at Carswell AFB, Fort Worth. At top left Max Runyan, GD/FW Dept. 12, is "sized" for capsule by Capt. N. C. Nicholas. In next picture Grover Tate, also GD/FW, takes training ride on 25-foot tower, simulating ejection. Second from right: "fog" fills chamber as loss of pressurization is simulated. Far right: Fred Hewes, GD/FW, rehearses aquatic survival, after being lowered from 12-foot boom.

Double Whirling

Study Casts New Light On Vortex Phenomenon

Merwin Sibulkin has dived into the "bathtub controversy" and come up with scientific data that sheds new light on an old subject.

Sibulkin is a staff scientist at General Dynamics / Astronautics who specializes in fluid dynamics.

His findings were published in the September Journal of Fluid Mechanics of the Cambridge University Press, London, under the heading "A Note on the Bathtub Vortex."

The "bathtub controversy" isn't new, but has provoked some extensive coverage in news media, especially in the British Commonwealth. It concerns the swirling motion water makes on draining from a container such as a bathtub. Those interested want to know why it takes a clockwise direction in some tubs, a counter-clockwise direction in others.

This direction or motion is called the "bathtub vortex."

Strong support rallies around the Coriolis force theory involving the rotation of the earth on its axis. Believers say that motion in the northern hemisphere appears to be deflected to the right, while that south of the equator deflects left. This, they say, is why water supposedly exits in a counter-clockwise direction here and in a clockwise direction south of the equator.

As a pure science study, one of many performed by General Dynamics specialists, Sibulkin spent about three months experimenting on the subject. He was aided by Norman Fong.

Experiments developed strong evidence that:

(1) If water is allowed to settle not more than a few hours, the exit rotation is actually the direction in which the container is filled. It must settle several days before it exits counter-clockwise every time.

(2) As the liquid surface approaches the bottom of the tub, the direction of rotation is reversed!

Thus, a single tub may drain in both a clockwise and counter-clockwise direction.

Sibulkin and Fong fabricated a cylindrical "bathtub" of transparent Lucite. It was 12 inches in diameter, four inches high and had a centered outlet. Capacity was about two quarts, although the water level in tests varied greatly. A filler tube could be angled to allow water to enter from either direction at a standardized rate.

As an aid to studies, powdered substances or dye were added to the water, either at a fixed rate or to color the water entirely.

Pulling the outlet plug started an observation "run."

After noting the unexpected reversal phenomenon in most of the early "runs," emphasis was then switched to determining why it occurred. A thin cork disc was floated on the surface. As the water level dropped, the disc centered over the vortex above the outlet, making it possible to study closely the rotation sequence near the bottom of the tank. It also made possible the recording, through high speed motion picture photography, of data to support the findings.

More Europe Cities Served by Jet 990s

Convair 990s are touching down at new ports as Swissair and SAS send their newest version jetliners into more and more European cities.

SAS has added Dusseldorf and Frankfort, Germany, and Rome, Italy to its 990 routes from Copenhagen to Tokyo. Swissair now is operating 990s seven days out of each month on round trip flights from Zurich to London and Geneva to London. It also is using a 990 on Zurich to Barcelona, Spain, runs.

GD/FW Man Elected National Director

R. R. Massegee, president of the Stone Steppers, the Rockhound activity of GD/FWRA, has been appointed director of the American Federation of Mineralogical Societies for a two-year period beginning Nov. 1, 1962.

The societies consist of six regional federations, each of which is represented in the American Federation by two directors and the president.

Improvement in Nameplate Fabrication Results in Substantial Expense Cut

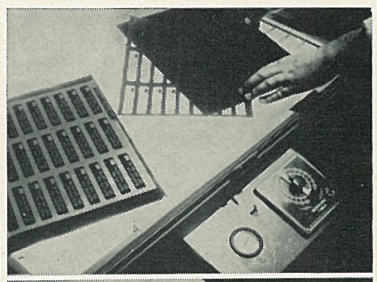
Even a relatively small item—a decal—is considered in cost-saving plans of a missile program.

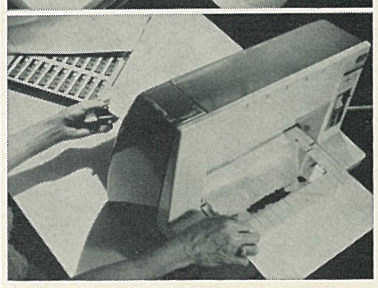
One decal wouldn't be regarded as a weighty expense. But military specifications often require more than 500 decals per missile for various identification purposes such as the contractor's name and assembly inspection date or for operational instructions. This multiplies pennies into valuable dollars.

A 40 per cent savings amounting to about $4,000 annually occurred recently at General Dynamics/Pomona as the result of a nameplate (decal) fabrication improvement study.

The basic recommendation of the study was use of plain aluminum foil rather than foil with an adhesive backing. This change results in a labor-time reduction of about 70 per cent for engraving (by black-light printer) nameplates on the unbacked aluminum foil.

After completion of the engraving process, adhesives are easily applied. The new process requires less operator skill, yet produces a much higher quality of decal.





BETTER METHOD—Top photo shows how decals are engraved on plain aluminum foil by black-light printer. Adhesives are easily applied (as shown in bottom photo).

B-58 Crewmen Indoctrinated In Escape, Survival Technique

A 10 G ride up an escape tower, a survival workout in water and a simulated loss of air at 50,000 feet are all part of a B-58 emergency escape capsule training course in progress at Carswell AFB.

All B-58 airmen — including GD/FW flight personnel — are undergoing the realistic 18-hour training at Carswell's physiological center under guidance of Capt. N. C. Nicholas, chief of physiological training.

First hour is spent in "man-sizing," an orientation session to determine if a man fits inside a capsule and can carry on necessary manual operations.

"By measuring about 300 men, we hope to establish some definite size standards for B-58 airmen," said Captain Nicholas.

"The job isn't an easy one. One officer 6-feet, 6-inches tall passed sizing requirements with flying colors, as did another who was 6-feet, 3-inches tall and weighed 246. But one officer who weighed 206 and stood slightly over six feet didn't make it."

An oversize wrist-to-elbow measurement, arm length, or back width, and other such measurements can disqualify a man. But to date, only a very small percentage have failed to breeze through the sizing routine. A man with a size 13 shoe made it with some room to spare—but his foot was built "right."

After sizing up his man, Captain Nicholas sends him for a realistic ride on a 24-foot tower.

In this exercise, the crewman initiates encapsulating action and theoretically hurtles out of his B-58 station into the slipstream.

"The jolt he gets in this ride, operated on air pressure, is about 10 Gs," Captain Nicholas said. "But it's a little rougher than the one he would feel from a rocket-powered ejection."

Sliding back down the tower, the crewman is subjected to a force comparable to the one felt when the capsule hits denser air, automatically triggering the main chute. The capsule slides out on a rail extension, placing the occupant virtually "on his back," very much like the position he would be forced into in a real ejection from a B-58.

"In this particular exercise, we have the option of feeding in malfunctions anywhere during an 'ejection,'" Captain Nicholas said. "This prevents the exercise from becoming too routine."

Procedures for water landing are a little different, so the crewman spends much of the next three hours afloat in a capsule in the Carswell swimming pool.

Dropped from a 12-foot boom, he must open the capsule's protective inner curtain, don down clothing, find and operate his radio, install the capsule's snorkel and discover how to "browse" around for long periods in a space considerably smaller than his shower.

Finally, the B-58 crewman gets a workout in decompression techniques in the high-altitude chamber.

The capsule occupant is elevated from 21,500 to a simulated altitude of 50,000 feet, where decompression occurs.

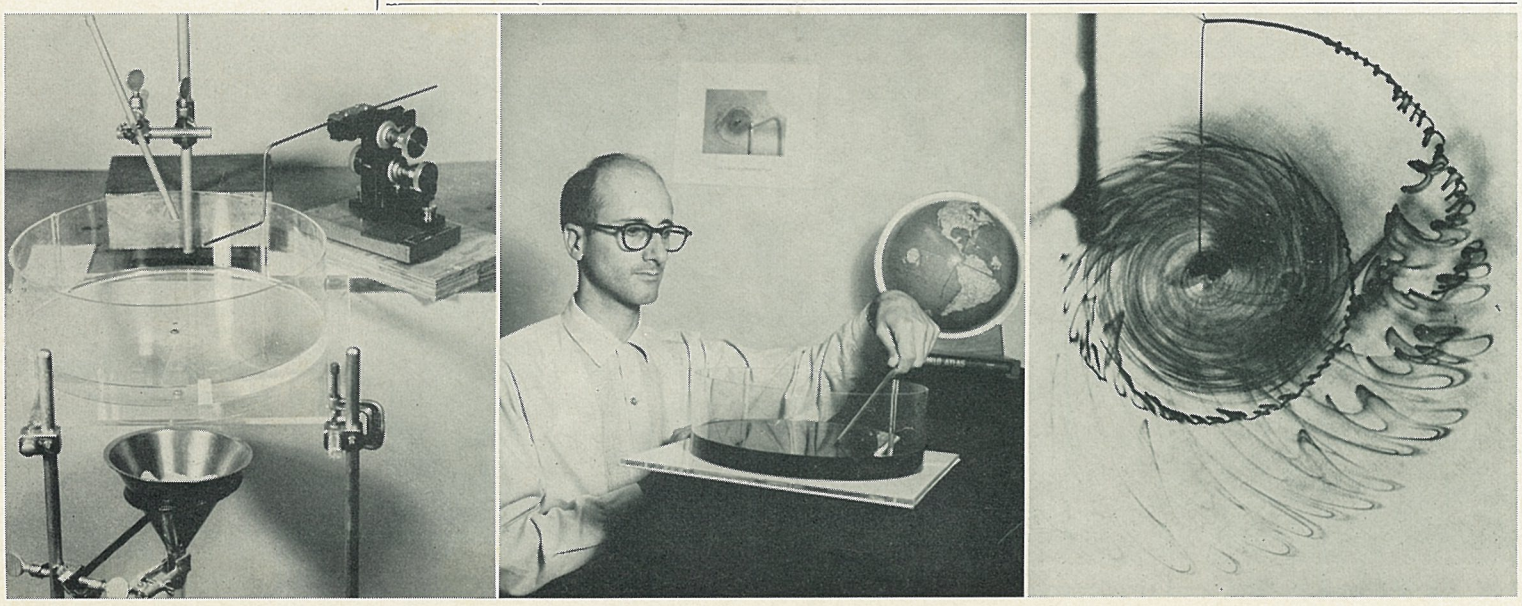
The crewman instantly pulls a handle which closes the capsule door and sets off the capsule's pressurization system.

(In case of decompression, a B-58 crewman can close and pressurize his capsule and fly to lower altitude, or if the situation warrants, eject from the plane.)

Topics included in this final phase of training include effects of high altitude on the human body, causes and treatment of oxygen deficiency, care of oxygen equipment, explosive decompression, pressure-breathing techniques and flydown following decompression.

Members of GD/FW Air Force Plant Representative's office taking the course are Lt. Col. Joe B. Thomson Jr., Majors Curtis R. Keogh, Robert S. Ballard, and Andrew Z. Doka, Capt. Russell E. Clark Jr. and M/Sgt. Frank E. Pulley.

GD/Fort Worth flight department personnel include: R. L. Johnson, Val E. Prahl, E. E. Guthrie, F. J. Voorhies, W. E. Denton, Vincent J. Kane, Fred A. Hewes, Michael F. Keller, James C. Lucas, Norman C. Stranberg, Grover C. Tate, Jack L. Blackmon, Charles B. Cox, Dale C. Ford, Paul Brewer, Max L. Runyan, and A. F. Riley.



ROUND AND ROUND—Merwin Sibulkin, GD/Astro staff scientist, demonstrates part of equipment used during study of why escaping water whirls in a particular direction. Dye was added to water in some tests to reveal behavior, as shown in photo at right.

Ex-Shell Oil Head Dynamics Director

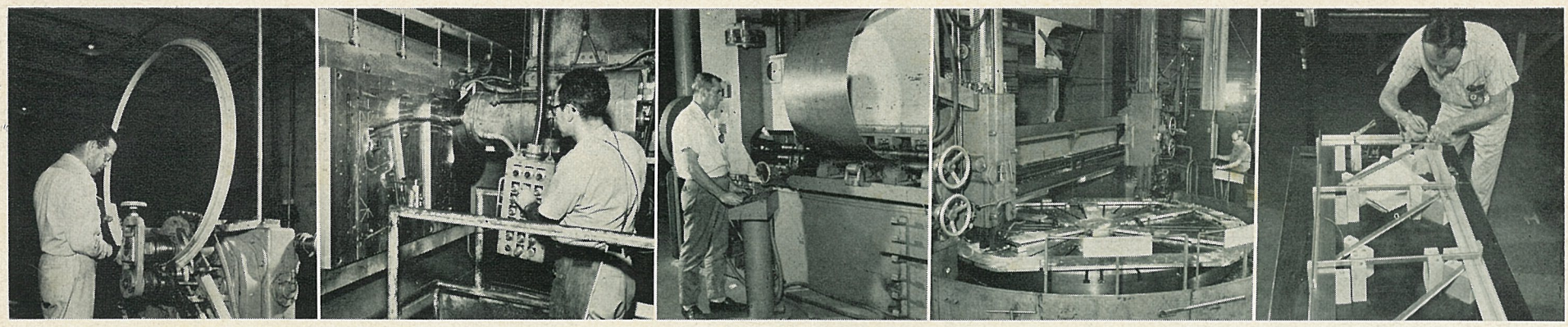
H. S. M. Burns has been elected a director of General Dynamics Corporation, Roger Lewis, president, announced last week.

Burns retired as president and chief executive officer of Shell Oil Co. and chairman of its executive committee Dec. 31, 1960. He had been with Shell since 1926, starting as a geophysicist in California.

ABRAMS TO SPEAK TO ROCKET SOCIETY

M. C. Abrams of General Dynamics/Pomona's Dept. 6 will present a paper entitled "Effect of afterburning extinguishment on ionization in rocket motor exhausts" at the American Rocket Society meeting in Palm Springs this Friday (Oct. 12).

6 106



IN WORKS—At left Rudy Sotelo of Dept. 101 forms contour in Little Joe II ring support on Kane & Roach form roll machine in GD/Convair sheet metal; John Soures, Dept. 215 machine operator at Plant 2, sets up numerical control Giddings & Lewis skin mill for cut on lower fin rear attachment for launch vehicle under construction at San Diego division. In center Mike Schelske (Dept. 101) shapes cylinder for rocket housing on contour roll machine; next, Frank Goerner, Dept. 401 lathe machinist, is facing pads on Little Joe welding fixture on jigs and fixtures' King boring mill. At far right R. R. Atkinson, Dept. 31, places beam assembly for fore body bulkhead in fixture in experimental area. Assembly operations for Little Joe II launch vehicles will get under way in near future.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 22 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, October 24, 1962





CAREFUL HANDLING—Little Joe II parts receive special attention in new stock room at GD/Convair Plant 1, top photo. Lew Bershaw, assistant foreman, in charge of Little Joe stock room, is at far left in foreground; at far right is Ann Gustafson checking parts records. In background Bill Morgan counts incoming parts and Fred Aguero wraps items for storage. Below, Morgan unlocks padlock securing tub of Little Joe purchased parts delivered daily to area from Rose Canyon.

Little Joe II Parts Handling Streamlined

Material and parts destined for Little Joe II launch vehicle are receiving careful treatment at General Dynamics/Convair in a streamlined handling system.

Focal point is a new stock room set up solely for Little Joe parts in Bldg. 5 experimental area where assembly of launch vehicles will soon be under way.

All outside procured parts are separated at the central receiving area at Rose Canyon, inspected, placed in locked tubs, and immediately transported to the Plant 1 stock room, via transportation operations.

There, they, as well as all in-plant manufactured components, are counted, wrapped, identified, and stored under lock and key until time they are needed in production, explained R. H. Johnson, superintendent of stores.

"This specialized handling method expedites flow of material, reduces risk of loss or damage, and increases our quality control of Little Joe parts," said George Davidson, stores foreman.

All parts records are maintained directly in the new 30x100-ft. stock room. In a departure from normal inventory control procedure, inventory control personnel maintain records on all Little Joe outside purchased parts within a factory area instead of at the Rose Canyon site, though they still report to F. R. Blake, issue control general supervisor. Maintenance of all records within the stock room itself concentrates and expedites transmittal of all parts information.

A surveillance log is checked weekly by inspection to assure that all parts are properly packaged and stored.

Quantity and kind of inside manufactured parts received is transmitted by a Friden transmitter unit to the data receiver in data processing to confirm completed orders and for future incorporation in parts reports.

Overseer of the off-bounds storage space is J. L. Bershaw, assistant foreman, who is aided by a foursome: Fred Aguero, stock set-up man; W. A. Morgan, stock clerk, and Ann Gustafson, who receive, identify, wrap, store, and issue parts; Kay Wood, who maintains records from receipt until time of issue.

GD/Electronics Will Conduct Con-Trib Drive

Initial steps are under way this week for the first Con-Trib-Club campaign for all General Dynamics/Electronics people in the San Diego division.

Announcement of the separate Con-Trib drive will go to all GD/E employees at both facilities, Plant 1 and Plant 2 (Hancock St.), from General Manager John L. Lombardo by the first of the month.

"Our goal is 100 per cent!" emphasized Lombardo, who urges full participation by all GD/Electronics persons.

Each employee will receive sign-up cards carrying a "Guide for Giving" based on salary rate.

"We urge every GD/E person to contribute his 'fair share,' as indicated on the tab cards, to make it possible for us to reach our goal," said Lombardo.

(Continued on Page 2)

Yes Vote Urged For 1A and D

R. H. Biron, General Dynamics vice president, this week urged favorable votes on both Proposition 1A and Proposition "D" in the Nov. 6 election. Both measures are non-partisan.

"These are extremely important to the well-being of the San Diego community," Biron commented. "Proposition 1A is essential if California is to keep pace with the demands for higher education. It would authorize a bond issue of $270 million, more than 80 per cent of which would go toward expanding state college, University of California and junior college facilities.

"By 1965 enrollments in these institutions will be increased by

(Continued on Page 6)

PREMIUMS BOOSTED AS CLAIMS CLIMB

Premiums for dependent group insurance carried by GD/Convair and GD/Electronics people were increased 46 cents a week, effective Oct. 8.

D. C. Wilkens Jr., GD/Convair director of industrial relations, explained that the premium raise was necessary since claims paid out were exceeding premiums paid in.

Dependent coverage premiums now deducted from pay checks amount to $3.53 a week. Former amount paid in weekly was $3.07.

Employees represented by the International Association of Machinists will have a smaller increase, from $2.48 to $2.85 a week, since they do not have major medical coverage for dependents.





FIRE QUEEN—Darlene Radick, as "Miss Torch" in GD/Convair's first fire safety contest, gets royal treatment as fire department turns out to teach her dousing tactics (lower shot). Helping in lesson, from left, are Ray Sanger, Chuck Paularena, Chuck Boutt, Hugh Rae, Lt. Bob Purdy. Top shot shows E. H. Damarus accepting trophy for Dept. 400 with "Miss Torch," F. G. Merritt, manager of industrial security, and Fire Chief D. D. Dimmitt.

Darlene Radick Is Miss Torch As Dept. 400 Wins in Contest

Darlene Radick was crowned "Miss Torch" by her department, Dept. 400, which won GD/Convair's first fire safety contest in a photo finish during the Fire Prevention Week observance.

Dept 400, tooling, reached the tape a split hair ahead of two other fast-running departments, Dept. 140 and Dept. 133. Its score of 98.4 in the fire safety quiz was a mere .2 better than the other two.

By virtue of its standing, it will possess the brand new trophy for the next year.

Many departments went all out in the contest, said Fire Chief D. D. Dimmitt. Supervisors sent employees to fire demonstrations, provided mimeographed answers to the safety questionnaire, selected monitors to brief personnel on locations of extinguishers and fire alarms and emergency procedures.

And in Dept. 133, one woman, Ruth Roberson, spearheaded a campaign to see that everyone in the area was well informed well before examination time.

Scoring over 90 per cent were Depts. 101-102-115, Dept. 401. Dept. 25 had 89.9 per cent.

During the one-week drive Fire Marshal Hugh Rae talked to over 600 people in the 26 departments at Plant 1, Rose Canyon, and the ramp. Scores were figured on a population basis.

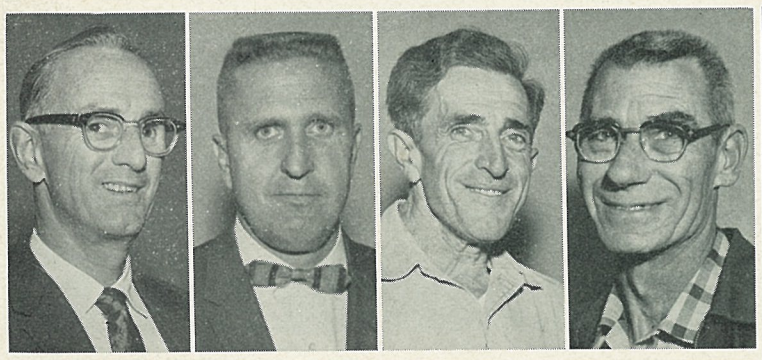
The drive showed that factory departments are most aware of necessary precautions, summarized Chief Dimmitt.

A follow-on training program will concentrate on bringing basic fire safety fundamentals to areas which stood lowest in the contest.

Rocket Propulsion Course Will Begin

A new course in rocket propulsion, taught by Allan L. Schuler, GD/Astronautics engineer, will open tomorrow (Oct. 25) at San Diego Evening College.

Classes will be held Thursdays, 6:30 to 9:30 p.m., at the college, 1425 Russ Blvd., SD. No advance registration is necessary.



Sporting new twenty-five-year service emblems are GD/Convair men, from left, G. S. Friend, Dept. 34-1, F. H. Nipper, Dept. 45, W. J. Cole, Dept. 140, E. C. Puterbaugh, Dept. 171.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due during the period Oct. 16 through Oct. 31.

Twenty-five-year: Dept. 101, R. D. Gowdy; Dept. 133, F. L. Schneider; Dept. 280, R. H. Kenner.

Twenty-year: Dept. 14, Anna S. Schoolcraft, J. G. Sheldon; Dept. 31, R. C. Saether; Dept. 101, D. L. Farnum; Dept. 133, E. A. Buchmiller; Dept. 140, Johnie W. Dally, A. L. Fuller, L. T. Helling; Dept. 171, R. R. Aiken; Dept. 400-1, P. E. Harris; Dept. 401-3, V. A. Gibson.

Fifteen-year: Dept. 16-4, Andrew Chelpka; Dept. 21-3, E. W. Groth, H. H. Walters; Dept. 25, A. B. Swarstad, Charles Whitlock; Dept. 31, R. C. Delgado; Dept. 35, G. W. Stockdale; Dept. 48-32, Ruby B. Dodd; Dept. 133, J. C. Burns, J. C. Furtado, J. J. Travis; Dept. 140, L. F. Vosacek, E. T. Wold; Dept. 171, L. Y. London; Dept. 218, F. E. Alvarez; Dept. 223, E. H. Carman.

Ten-year: Dept. 6-300, C. A. Hall, C. W. Marsh; Dept. 14, Albert Ederati, Milton Mitchell; Dept. 15-0, J. E. Foster; Dept. 21-1, Freddie Hicks; Dept. 101, George Jimerson, Carold Mitchell; Dept. 102, E. W. Hamilton; Dept. 115, G. E. Thompson, Alice M. Valentino; Dept. 128, R. F. Lanzo.

Dept. 171, L. R. Imbimbo; Dept. 192, R. L. Baker, H. G. Goldmeyer, Norman McCree; Dept. 215, Annie S. Gagnon, R. H. Harter, Bernice C. Hurley, W. H. Orr, J. E. Parent, D. W. Peery; Dept. 216, A. H. Angulo; Dept. 292-2, C. D. Allenson Jr.; Dept. 401, B. D. Bush, M. A. Caudillo, Eleanore H. Smith.

GD/ELECTRONICS

Ten-year: Dept. 10-00, Catherine H. McCutchan; Dept. 71-00, D. E. Hollenbeck.

Promotions

CONVAIR

Promotions to or within supervision effective Oct. 8.

Dept. 6, Engineering: To research group engineer, H. W. Byington. To asst. test group engineer, E. E. Keller. To electronics group engineer, S. H. Logue, R. F. Myers. To structures group engineer, J. M. MacDonald.

Retirements

CONVAIR

BARKER—H. M., Dept. 25. Seniority date June 17, 1954, retirement effective June 17, 1962.

BROOKS—C. D., Dept. 102. Seniority date Jan. 19, 1951, retirement effective Oct. 1, 1962.

CAMPA—R. M., Dept. 138. Seniority date Oct. 26, 1950, retirement effective July 2, 1962.

DONNELLY—E. E., Dept. 99. Seniority date Sept. 8, 1953, retirement effective Aug. 22, 1962.

IRELAND—Allen V., Dept. 102. Seniority date May 15, 1952, retirement effective Sept. 12, 1962.

PATTERSON—C. H., Dept. 31. Seniority date May 13, 1953, retirement effective July 9, 1962.

PEARISO—F. H., Dept. 146. Seniority date Jan. 22, 1952, retirement effective Oct. 16, 1962.

SALAZAR—J. A., Dept. 292-1. Seniority date Aug. 28, 1947, retirement effective July 3, 1962.

SCHEARER—Lillian M., Dept. 216. Seniority date Oct. 15, 1948, retirement effective Oct. 12, 1962.

SCHROEDER—H. S., Dept. 116. Seniority date March 31, 1947, retirement effective June 29, 1962.

TIBBETTS—Paul S., Dept. 14-5. Seniority date Feb. 22, 1951, retirement effective Sept. 30, 1962.

Births

GD/ELECTRONICS

MARTIN—Daughter, Lori LuAnn, 8 lbs., 4 oz., born Oct. 4 to Mr. and Mrs. Robert F. Martin, Dept. 32-00. Mrs. Martin, (Dawn Elaine), formerly Convair Dept. 212.

Deaths

CONVAIR

BRADLEY—Cliff, Dept. 171. Died Oct. 17. Survived by wife, Mary; son, John; daughter, Donna; mother, two sisters, one grandchild.

Advanced Products Controller Shifts To Post in GD/E

J. E. Rutledge, former controller of Advanced Products, was named assistant manager of systems and procedures at General Dynamics/Electronics' San Diego division, according to an announcement by H. F. Johnson, controller.

In his new capacity Rutledge will report to F. L. Farrell, GD/E manager of systems and procedures.

A native of Wichita, Kan., Rutledge had been connected with other divisions of the company over the last 20 years. He joined the former Convair division at Fort Worth in 1941, holding the position of tabulating supervisor when he transferred to San Diego in 1949. He left the company in 1953 to go to Rheem Mfg. Co. as chief controller.

He rejoined General Dynamics as senior auditor in the Corporate Office, N. Y., early in 1961 and transferred to Advanced Products the first of this year.

* * *

Other recent appointments within GD/E-SD saw K. R. Farnsworth named assistant supervisor of the material control section at Plant 1, T. E. Morris, manager of material operations, announced.

R. W. Emmett is in charge of all material operations on second shift, including posting operations, material stores activities, shipping and receiving and traffic functions.

A. J. Catalano was appointed manufacturing control supervisor.

Melvin Named To GD/E Post

J. Gordon Melvin has been named to the post of manager of planning and customer requirements at General Dynamics/Electronics division at San Diego.

Reporting to J. W. Colvin, manager of plans and programs, Melvin will be responsible for market research and liaison with GD/E customers.

Before joining GD/E this fall, Melvin was western regional manager for the electronics division of General Mills Corp. For 12 years before he joined General Mills in 1961, he had been with Philco Corporation in Philadelphia, Pa. He held the position of assistant general sales manager and sales coordinator in the corporation's technical representative division before transferring to General Mills.

A native of North Carolina, Melvin served in the U. S. Navy during World War II as an aviation electronics technician's mate. He attended Texas A&M and William and Mary Universities.

General Dynamics NEWS

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Mauler Weapon System Display Seen by 5,000

An estimated 5,000 persons visited the General Dynamics/Pomona Mauler weapon system display earlier this month at the annual meeting of the Association of the U. S. Army in Washington, D. C.

The display featured a ⅓-scale working model of the Mauler weapon system. Visitors were permitted to operate the Mauler model's movable launching unit and simulate missile firings against enemy "targets."

Among high-ranking visitors who operated the Mauler model were: Lt. Gen. John P. Daley, commanding general of Army combat development command; Lt. Gen. Dwight E. Beach, Army chief of research and development; Lt. Gen. Frank S. Besson Jr., commanding general of the Army material command, and Wm. F. Schaub, Assisting Secretary of the Army.

Roger Lewis, president of General Dynamics Corporation, and C. F. Horne, GD/Pomona and GD/E president, attended.

Jack Sloan of the president's office, D. D. Loos of customer requirements, and J. F. Irwin, staff engineer—Army, manned the booth.

Con-Trib Okays Two $500 Gifts

Two San Diego organizations received $1,000 following approval of GD/Convair Employees' Con-Trib-Club Committee this month.

National Cystic Fibrosis Research Foundation, San Diego County Chapter, will get $500 to add to its fund for a clinic in San Diego. Second donation of $500 was voted the Big Brothers of San Diego County, Inc.

Sunday Clinics Give Polio Vaccine

General Dynamics people are urged to start their polio immunization this Sunday (Oct. 28), if they missed the first Sabin-on-Sunday date.

Type I Sabin oral vaccine will be given SD people of all ages during October. Donation is 25 cents a dose.

Clinics in SD city and county will be open from 11 a.m. to 6 p.m. GD/Convair employee services, ext. 1245, Plant 1, will give specific locations.

GD/E Will Conduct Con-Trib-Club Drive

(Continued from Page 1)

Those already contributing will have an opportunity to adjust their donations and all those not already signed are urged to authorize payroll deductions for credit to the GD/E Employees' Con-Trib-Club.

All monies donated will be put in a separate GD/Electronics' fund for contributions to United Community Services agencies and an Emergency Aid Fund, solely for GD/E people in need.

Ten per cent of all donations are channeled into the Emergency Aid account to assist GD/E persons in financial straits through no fault of their own.

GD/Convair and GD/E Join For Baseball

Combined GD/Convair-GD/E entry in the IRC winter baseball league will meet Montoya Construction this Sunday (Oct. 28) in the second tilt of the season.

Game time will be 1 p.m. at University Heights playground.

First industrial league games saw the GD nine matched against Oceanside last Sunday.



HORNE HONORED—C. F. Horne, GD/Pomona and GD/Electronics president, was presented a life membership in Armed Forces Communications and Electronics Association at recent meeting of Greater Los Angeles Chapter. Joseph H. Goodrich, right, of Pacific Telephone and Telegraph Co., made presentation.



GRADUATION—John L. Lombardo, GD/Electronics general manager at SD, passes out diplomas to four radar technicians from Florida Naval base who just completed GD/E overhaul and repair course. From left, P. L. Metrejon, GD/E field service engineer, Waldo E. Romero, Donald E. Neel, Lombardo, Raymond E. Tucker, Edgar E. Rowe.

Navy Radar Technicians Given Course on GD/E Systems

In a one-of-a-kind training program, General Dynamics/Electronics at San Diego has completed a seven-week radar overhaul and repair course under a Navy contract issued by the Bureau of Weapons.

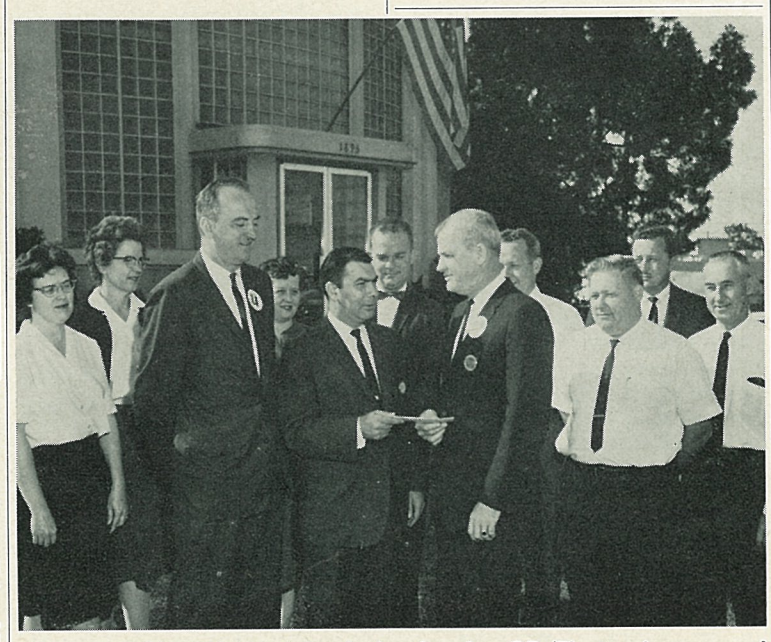
During the training period, concluded Oct. 12, four radar technicians attached to the Navy Overhaul and Repair Base at Jacksonville, Fla., were in the San Diego plant receiving first-hand information on maintenance of GD/E's portion of the REINS system.

This is the first course of this type arranged by GD/E directly for the customer, in this case, the Navy. (GD/E is manufacturing radar systems under a contract from North American Aviation, Inc., for its Navy A3J carrier-based attack bomber.)

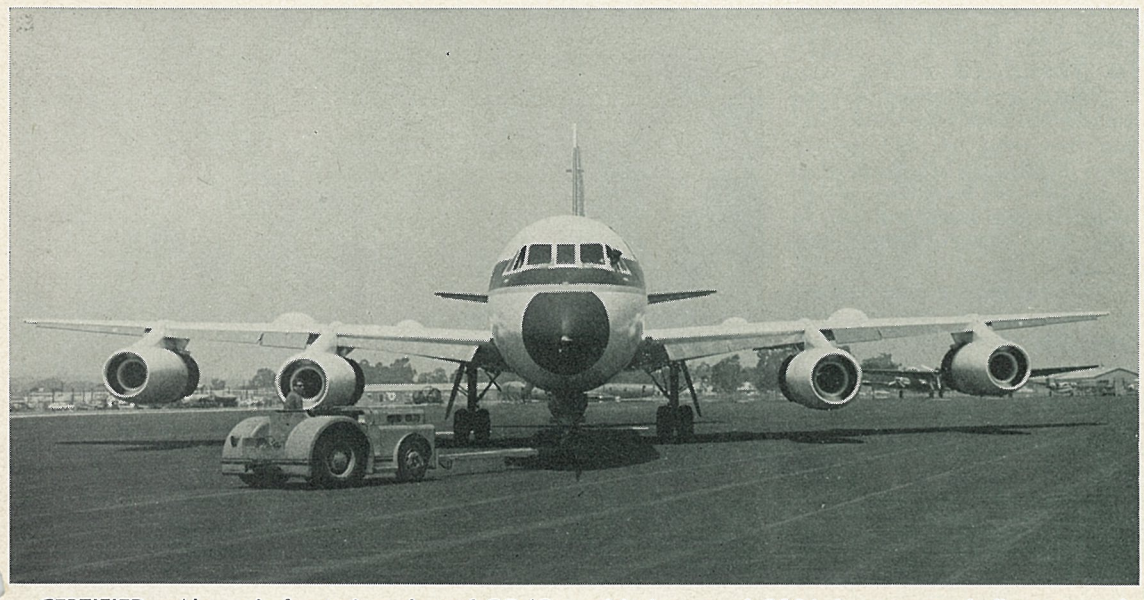
Briefings included three weeks of theory conducted by P. L. Metrejon, GD/E senior field service engineer, and a month of practical experience in all production areas under responsibility of J. H. Thompson, manager of operations.

The four, Waldo E. Romero, Edgar E. Rowe, Donald E. Neel, and Raymond E. Tucker, were indoctrinated in all GD/E factory processes, from build-up through checkout of the system. In this on-the-spot training, they received knowledge which could not be duplicated in any other way, said GD/E officials, who particularly stressed the extreme cooperation and sincere interest of the trainees, all civil service technicians attached to the Florida base.

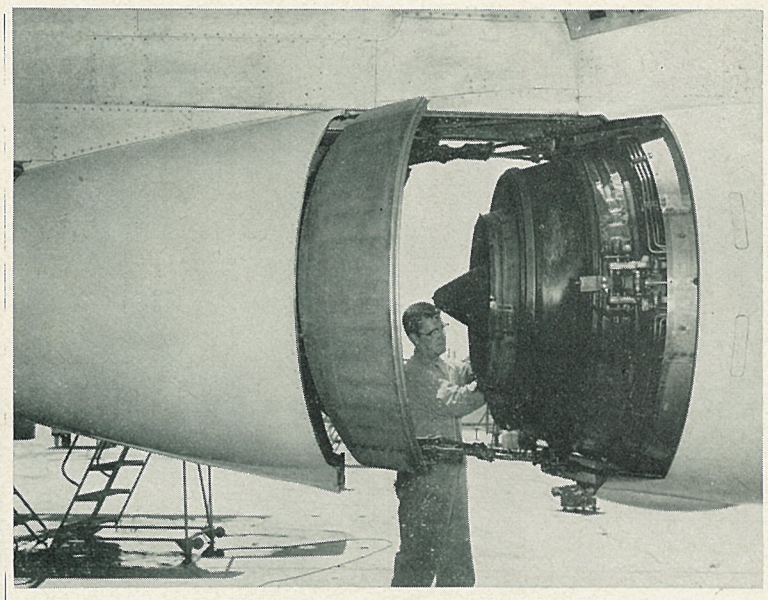
They, in turn, will carry information back to overhaul and repair personnel at Jacksonville with GD/E compiled manuals, lesson guides, and general resumes forming nucleus of training courses on-base.



GD/E DONATION—John L. Lombardo, GD/Electronics general manager, hands I. D. Sykes Jr. check for $3,875.77 as final payment on last year's pledge of GD/E Plant 2 (Hancock St. facility) people to United Community Services. Sykes and Joe Frivaldsky (at left) are loaned executives from GD/E and GD/Astro for fund drive.



CERTIFIED—Above is front-view shot of GD/Convair's improved 990A long-range jetliner recently certified by FAA. Plainly visible are full-span Krueger flaps which replace former combination of Krueger flaps from fuselage to inboard pylon and leading wing slats outboard across rest of wing.



NEW LOOK—Latest 990 version carries extended pods, 25 inches longer than original design, with exhaust fairing opening on tracks for easy access. In above photo J. R. Heriot, Dept. 171 field service mechanic at GD/Convair, adjusts reverser lock with fairing "translated" aft into reverse, or open, position.

625 mph Cruise Speed Achieved by 990A Jet

General Dynamics/Convair's 990A—long-range version of the newest jetliner—received an airworthiness type certificate from Federal Aviation Agency on Oct. 10, several days sooner than expected.

The FAA revenue ticket will permit Swissair to put the 990A into scheduled passenger-carrying service. The airline, which refers to the Convair jetliner as the Coronado, has already started to incorporate the improvements on the first of seven 990 Coronados presently flying Swissair and Scandinavian Airlines System routes.

General Dynamics/Convair has shipped improvement kits, including parts and tools, to Zurich, Switzerland. A team of company service, engineering, inspection, tooling and factory experts is helping Swissair incorporate the improvements on the first jetliner at the Kloten Airport.

Swissair has allotted 60 days to update the first airplane. The airline will cycle its six other Coronados into the improvement program to coincide with the regular service and overhaul schedule.

GD/Convair field service representatives stationed with Swissair at Zurich for 990 operations and updating support are F. D. Laffoon, E. R. Buckman, M. R. Addis, Mel Clause and John Crenshaw.

Meanwhile, GD/Convair is preparing to start another FAA flight test program to obtain certification of a second, still-faster version of the Convair 990A which will be operated by American Airlines.

J. H. Famme, president of GD/Convair, said the test version of the 990A has already attained a cruising speed of more than 625 miles an hour, faster than any other commercial transport now in service.

Two versions of the 990A are needed because of differing domestic and foreign airline requirements. The overseas 990A has been optimized for range and payload, while the domestic 990A has been optimized for speed.

An FAA flight test program for the production version of the domestic 990A is scheduled to start in November. After FAA certification is obtained, the 15 American Airlines 990s now in service will be cycled back to the San Diego plant for speed improvement changes. Five additional speed-improved 990As are on order by American Airlines for delivery next year.

Three basic changes are common to both versions of the 990A:

1. The engine pods are extended rearward 25 inches. The new-shaped fairing reduces the external drag of the pod, and at the same time, causes no detrimental effects on engine performance during cruise.

2. The wing leading edge is modified so that it has less camber or droop. This improves its shape for high-speed flight. Also, a different high-lift device arrangement is incorporated on the wing leading edge. Full-span Krueger flaps replace the former combination of Krueger flaps and leading edge slats.

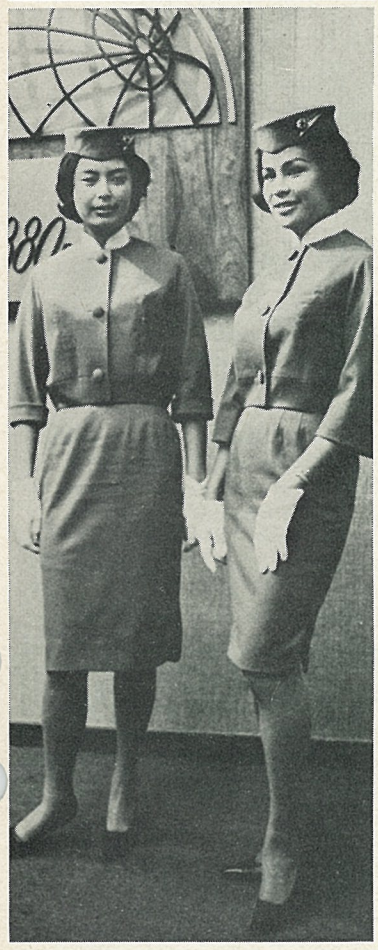
3. A new fillet or fairing is incorporated at the juncture where the wing mates with the fuselage. This fillet helps prevent airflow separation, thereby reducing drag in high-speed flight.

In addition, the domestic 990A has contour fairings added on the engine pylons and terminal fairings attached to the inboard side of each engine exit nozzle. Both the pylon and terminal fairings are applications of area-rule ("Coke bottle") design principles and help reduce drag at very high speeds.

The above changes are the result of extensive wind tunnel and flight tests undertaken to improve performance of the 990 jetliner. GD/Convair engineering test pilots have logged more than 325 hours flying versions of the Convair 990A.

The overseas version of the 990A, which was just certified, completed a 25-hour functional and reliability flight test program for the FAA late last month to prove the dependability of the new thrust reversers and flap system. The certified plane also demonstrated improved takeoff performance and better climbout characteristics, giving it greater flexibility for airport operations.

The 990 features some of the most advanced systems in the industry. It is the first jetliner to be equipped with a new proportional anti-skid braking system that has better braking capabilities on slick runways. It is also the first jetliner designed specifically to take advantage of the turbofan pure jet engine with its big advantage in thrust and fuel economy.



CHIC HOSTESSES—Rose Tam and Pamela Mattos model stylish rose-red uniforms now replacing conventional dark blue for Cathay Pacific Airways hostesses. Cathay flies Convair 880 over Far East routes.

Symposium to Hear Astro Man's Paper

Romuald Anthony, GD/Astronautics Dept. 592-2, will give a report on horizon measurements from high altitude at the Infrared Information Symposium, Philadelphia, Pa., Oct. 29-31.

Anthony is research group engineer in the infrared-optics technical laboratory, located in Bldg. 51, Plant 1, San Diego.

Radar Mapping System Tried Out in Hustler

A new airborne mapping radar capable of detecting details of the terrain thousands of feet below has been developed by General Dynamics/Electronics at San Diego.

The new system will permit rapid, accurate mapping of vast sections of the nation and the arctic regions which have never been adequately charted.

Produced under a U. S. Air Force development contract, the radar system has been test flown on a B-58 and is suitable for operation on transport aircraft, including the C-141. The system is a refinement of other General Dynamics mapping radars. In its development, emphasis has been placed on designing the radar to record faithfully on film extremely small terrain details from high altitudes.

In the General Dynamics system, a camera and film magazine are fitted over the radar screen. Each time the radar scans the terrain below, the synchronized camera takes a photograph of the map displayed on the screen. The film is developed after the aircraft lands.

General Dynamics engineers say the system is superior to previous mapping radars because of the specially designed picture tube and the increased accuracy of the radar being used. This increases the ability of the radar to distinguish among small objects close together on the ground.

Besides taking the photograph, the data recorder makes a film record of the time and the aircraft's speed, location, altitude and direction.

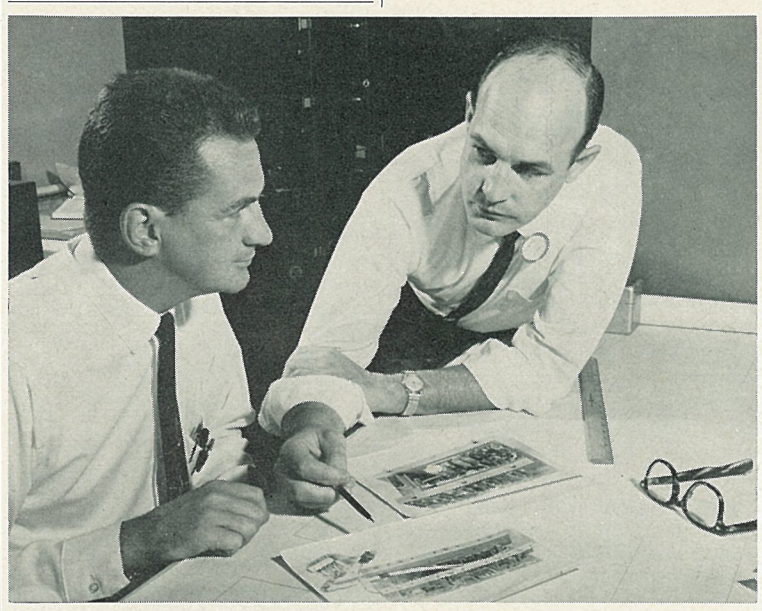
The system employs a cathode ray tube which displays the picture by using a series of extremely small dots. The ultra-small dot size makes the system's resolution of details about ten times better than conventional radars.

Contract for the airborne radar was received early in 1960 by the former electronics group of Convair division and carried on by GD/Electronics, under direction of D. A. Graybill, project engineer.

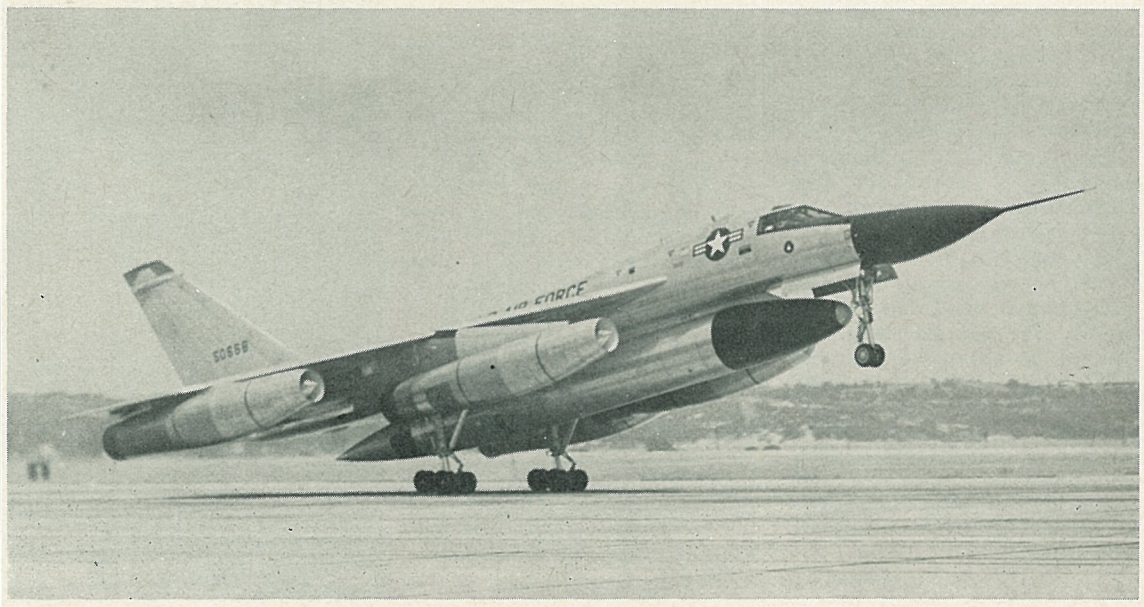
The radar system was delivered in May of 1961 to Fort Worth. Ron Williams, GD/E design engineer, was based there throughout the 14-month checkout program, concluded in August. Max Tucker was GD/E system engineer.

Because it uses radar rather than photography, the system can produce aerial maps under all weather conditions. Map displays are provided on two separate radar indicators. One is presented in a conventional manner to the aircraft's operator for navigational use. Another presentation, on the precision indicator, is recorded continuously by camera.

The radar has undergone environmental testing and operates successfully in a wide temperature range. In its flight testing, the system was subjected to the shock and vibration received on jet aircraft.



CONFERENCE—D. A. Graybill, GD/E project engineer, and R. B. Williams, design engineer, check over photos of components incorporated in GD/E-developed airborne radar reconnaissance system.



TEST BED—Hustler No. 9 ready for takeoff at Fort Worth during flight checkouts of new airborne radar system developed by GD/Electronics at San Diego for Air Force. Plane is equipped with new-type radome containing components of system.



GLASS FUN—In top photo GD/Convair wife Helen Keough in her glassware workshop. Below, Betty Young measures fiber glass which will form top of glass-studded lampshade.

Bottle Busters

GD/Convair Wives Are Artists When it Comes to Glass Work

Two GD/Convair wives have solved the common household problem of what to do with empty bottles—they transform them into objets d'art!

The homes of Helen Keough, wife of N. R. Keough, Dept. 31 superintendent, and Betty Young, wife of Wesley C. Young of tool planning and design, are graced with colorful ash trays, flower containers, dishes, bowls of unusual and strange shapes, wall plaques, all made from ordinary glass bottles, whole or crushed.

And, they've both gone far beyond the mere melting of a bottle in a kiln in their imaginative use of glass. Mrs. Keough has constructed a realistic underwater scene on her bathroom window, using shells, starfish, tiny glass fish, sea horses perched in coral fans. One of her first projects was a holiday pane with bits of green glass shaping the Christmas tree that goes up in the front door every Yuletide.

Mrs. Young forms massive, medieval-type candlesticks from discarded glass insulators. She is now in the midst of an ambitious lampshade construction.

"We're not above scouring gutters and back alleys for bottles that look interesting or bits of broken glass just the right color," said Mrs. Keough. "And our grocery shopping is governed by the kind of bottles we find on the shelves—in fact, our family is a little weary of the salad dressing that comes in bottles just right for small ash trays."

The two became interested in glass craft through an adult education class six years ago when the hobby was in its infancy. Since then they have expanded their talents with original ideas and designs and private lessons from a Spring Valley instructor.

Their bottle forming consists of placing a bottle in a shallow mold and heating in a kiln at extreme temperatures until the bottle "sags," or melts down into the mold.

"We never know what shape they will be when they come out," they said. "Each one is an 'original.'"

Wind chimes with pure tones are made from glass rings, cut from a round bottle by what Mrs. Keough calls her "bottle buster," a charged electrical wire wrapped around the bottle. The rings are heated to give them a rounded shape and hung from shapely jugs or pieces of driftwood. They tinkle musically in a breeze.

Among the long list of decoration pieces they've experimented with are wall plaques, jewel-decorated goblets, plates, jewelry from fired glass chunks or marbles.

"There is no limit to the hobby," said Mrs. Young. "One idea leads to another, and we never look at anything made of glass —from a headlight to a plate glass window—without thinking 'what can we do with that!'"

Fire Dept. Captain Dies on Vacation

T. W. Attebury, GD/Fort Worth fire department captain since 1951, died of a heart attack Oct. 15 while vacationing at Lake Whitney, Texas.

Attebury went to work at GD/FW Feb. 23, 1942, as a hose man in the fire department. He was the first fireman hired by Fire Chief C. H. Jones.

Calif. to Return To Standard Time

Clocks in California will be turned back an hour this coming Sunday (Oct. 28) as the state returns to standard time.

All General Dynamics people based in the state will regain the hour they "lost" this spring.

Daylight saving time was extended a month for the first time this year following adoption of the plan at the last state election.

Airborne Antenna Installed in C-130 For Missile Checks

General Dynamics/Convair is winding up its task for the Air Force under a contract to develop and install a directional airborne antenna receiving system in a C-130A transport.

Following flight tests at the San Diego plant last week the C-130A was due to return to U. S. Air Force Missile Test Center, Patrick AFB, Fla., for continuation of operational checks under simulated tactical conditions, said Frank Machado Jr., design specialist responsible for the program.

The Air Force craft has been in Plant 1 experimental yard during the last month for installation of the system which is designed for use in connection with telemetry at Atlantic Missile Range to track missile nose cones re-entering the atmosphere.



BANNER EVENT—A blue and gold banner was presented by Roy A. Williams, left, president of GD/Pomona Management Club, to George Watkins, newly-installed president of Electronics Management Club in Rochester.

Management Club Organized At GD/Electronics-Rochester

A new Management Club, organized at GD/Electronics-Rochester, received its charter from the National Management Association at a special charter night program last month.

Roy A. Williams, president of the GD/Pomona Management Club, presented a banner to George Watkins, newly-installed club president at Rochester. The 3½-by-5-foot blue and gold banner was presented on behalf of the GD/Pomona Management Club.

"It gives us great pleasure to take part in this special program," Williams told the large group attending, "and we in Pomona are happy to welcome the GD/Electronics Management Club as a brother club in the National Management Association. Our members have received great benefits from participation in our club, and we hope that you men here will gain similarily from your active participation in this new organization."

William Lees of Westinghouse Corporation, a regional director of the National Management Association, installed officers and presented the charter.

Dr. Arthur Secord, director of community services for Brooklyn College, spoke to the group on the subject of "How to tell what you know."

The Electronics Management Club of Rochester now has a membership of nearly 400, and about 250 of these attended the charter night program.

Can't Afford Both

Racing vs Matrimony? Sports Cars Triumph

Bruce Eglinton of General Dynamics/Pomona's Dept. 6 won the Formula race at Los Angeles County Fairgrounds in Pomona last month posting the second fastest winning average speed of the day, 77 miles per hour, with his Lotus 20B Junior. The races were sponsored by United States Sports Car Club.

Eglinton started racing in 1959 while attending California Institute of Technology at Pasadena. He confines his racing to the Formula Junior class—open-wheel racers of approximately 100 horsepower and top speeds of about 130 mph.

Last year Eglinton ranked second in point ratings kept by Sports Car Club of America. This year he is currently in fourth place. His present car is a 1961 model Lotus that he races about 15 times a year.

"Most of my spare time and money goes into racing," Eglinton said. "Couldn't afford the sport if I were married."

Eglinton, who joined GD/Pomona in June of 1960 after graduating from Cal Tech, receives a lot of help from friends. Jap Cottam (Dept. 6), for example, is one of several who help take the car apart in the garage at Eglinton's South Pasadena home. Then the fight begins to get the car together before race time.

"Formula racing is highly competitive," Eglinton said. "The cars are less expensive than heavier, more powerful sports cars but in most races post average speeds very close to the big ones. The Formula Junior cars weigh approximately 800 pounds and cost $4,000 to $5,000."

Eglinton serves on the board of Formula Racing Association, a group devoted to promoting interest in the sport. In most races he competes against amateur friends. However, he manages each year to enter several "big" races which attract professional drivers.

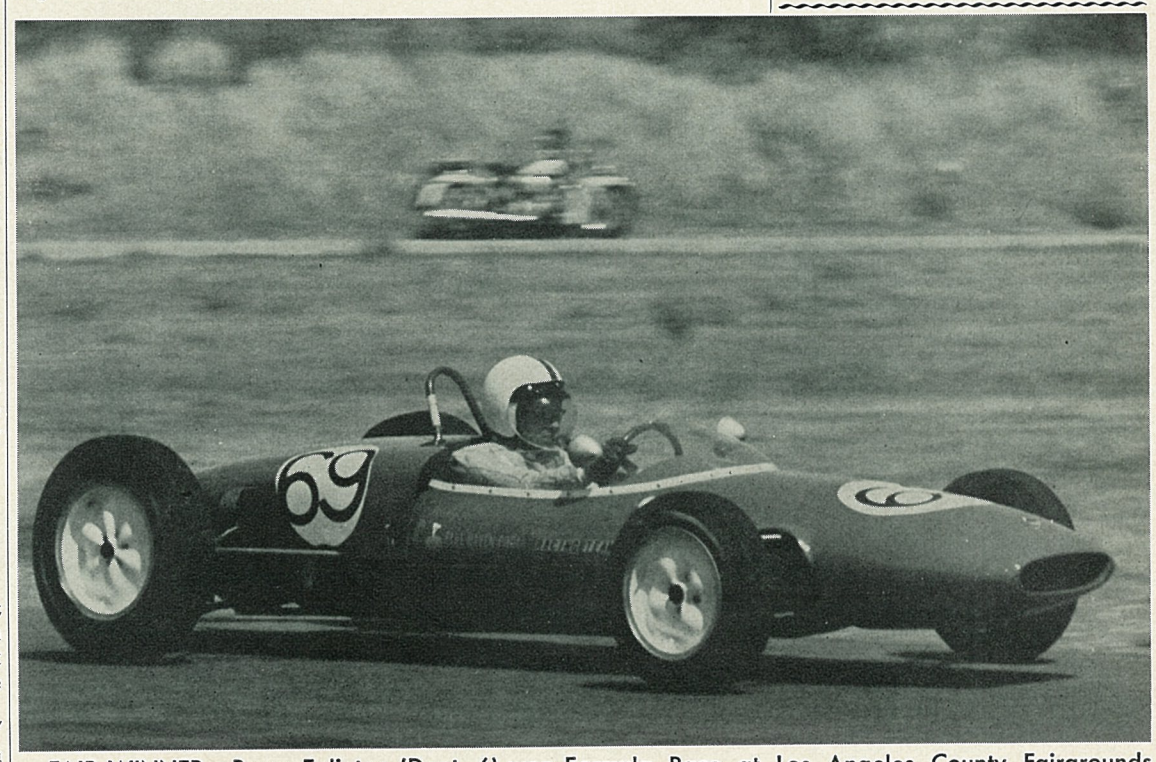
Mechanical troubles hit Eglinton in the Times Grand Prix at Riverside Oct. 13-14. In Saturday's Formula race his rear brakes went out and he finished tenth. Midway in Sunday's race mechanical failure of drive gears forced him to the pits and he failed to finish.

Veterans of Vultee Will Hold Reunion

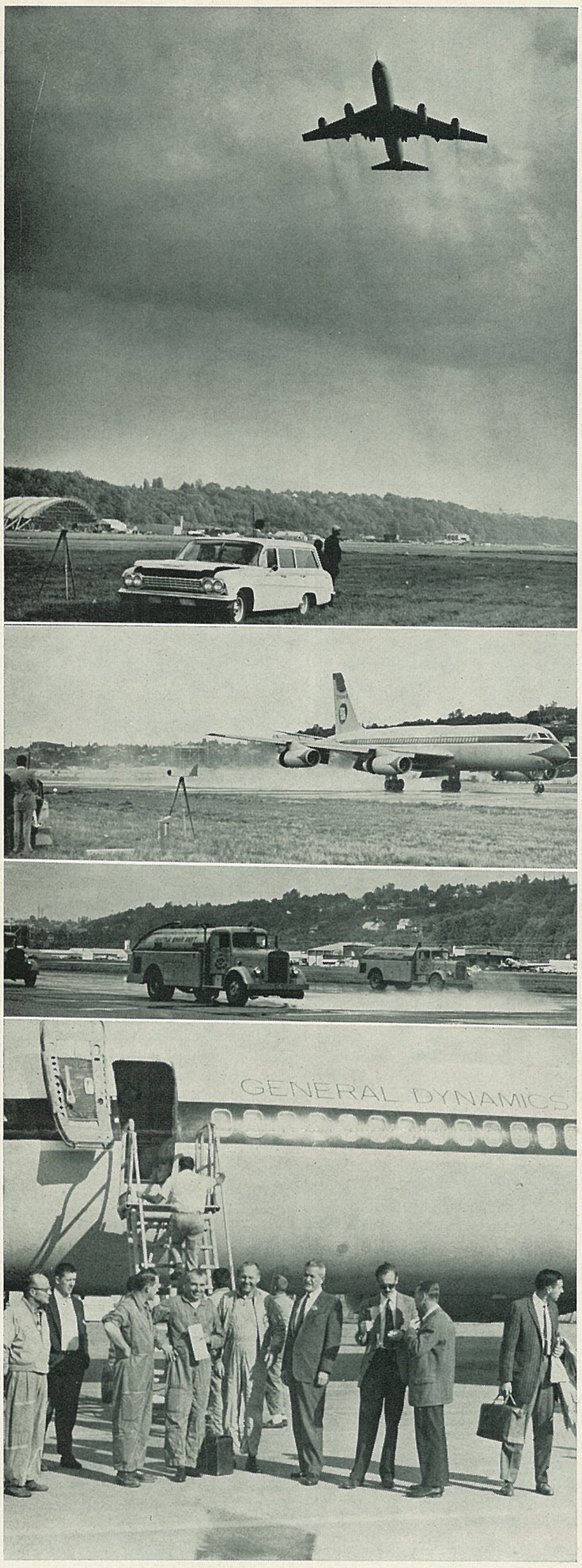
Vultee Field veterans will gather for their 15th annual reunion at a stag dinner Saturday, Nov. 3, at Disneyland Hotel, 1441 S. West St., Anaheim, Calif.

Social hour starts at 5:30 p.m. followed by dinner at 8. Price for the dinner, including tax and tip, is $5.

All reservations must be in by Oct. 30. They are to be mailed to Vultee Club, 11010 Garfield Pl., South Gate, Calif.



FAIR WINNER—Bruce Eglinton (Dept. 6) won Formula Race at Los Angeles County Fairgrounds last month with his Lotus 20B Junior. His average speed was 77 mph. Last year Eglinton ranked second in point ratings by Sports Car Club of America.



WET "WEATHER"—City of Seattle trucks poured thousands of gallons of water on King County Airport for wet runway tests on Convair 990A. Part of crew is shown beside plane. From left: F. W. Chapman, flight test engineer; Don Gross, aerodynamics engineer; Howard Auten, pilot; Captain John Knebel; Ed Guske, senior flight test engineer; E. D. Shannon, manager of engineering flight test; David Blundell, American Airlines engineer; Glen Brink, engineering test pilot; R. F. Bausback, instrumentation engineer.

Dial X Phones To Communicate With Satellites

The same type of rugged "Dial-X" telephone system that serves aboard all of the U. S. Navy's Polaris-firing nuclear submarines is now being manufactured by General Dynamics/Electronics at Rochester for use in the "Syncom" communication satellite program.

"Syncom" is a planned communication satellite that will be placed in a "synchronous" orbit. That is, its orbital velocity will be matched to the earth's rotational speed, so that it will remain in a fixed position relative to a location on the earth's surface.

Most efficient use of the "Syncom" program will require a number of communications centers at various locations around the globe. Each of these centers will be a complex network of message-gathering equipment, radio transmitting and receiving systems, and distribution links.

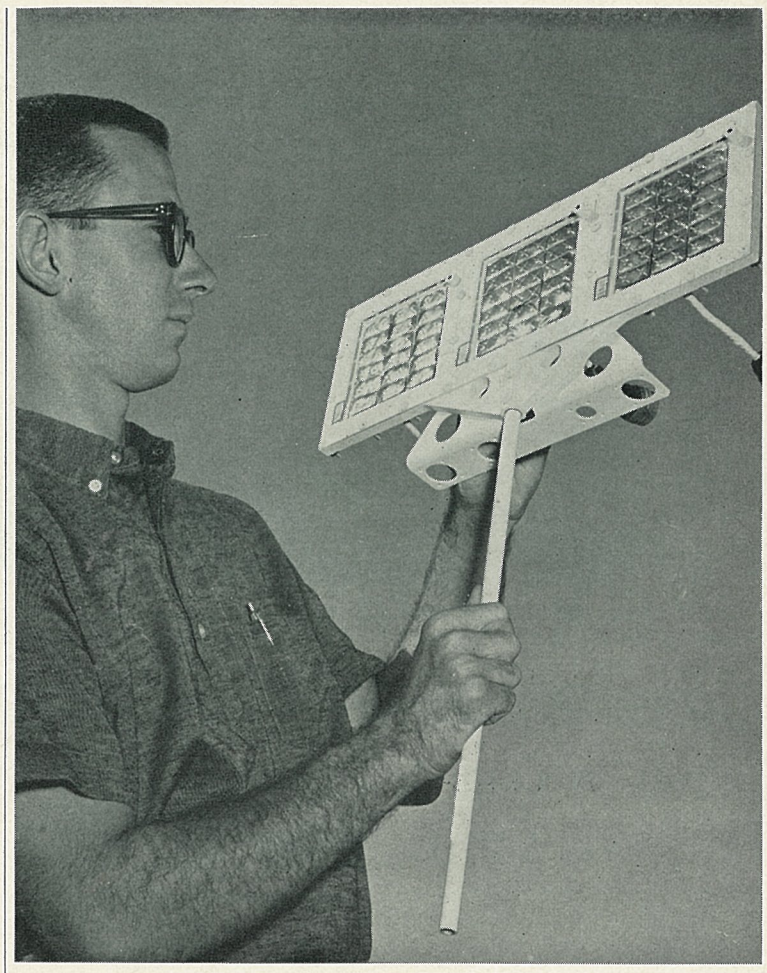
The "Dial-X" systems, which are being built under John P. Daley in industrial manufacturing at GD/E-Rochester will serve the internal communications needs of these centers. Vincent F. Renda was industrial marketing coordinator on the contract awarded by the Bendix Radio Division of the Bendix Corporation. The contract calls for three systems. Bendix is developing the centers for the National Aeronautics and Space Administration under technical direction and program management of the U. S. Army Signal Corps.

In addition to the normal "Dial-X" features, which include executive right-of-way, conference linkages, and the "magic memory" which automatically calls back a busy line as soon as it is released, the special switchboards being built for the "Syncom" project will provide full paging accessibility. This gives every telephone instrument in the system access to the paging system simply by dialing one digit. At some stations the military Type G telephone instruments will have provisions for the optional use of headsets. GD/Telecommunication will build telephones and some of the associated equipment for the program.

Test Lab Engineer Author of Article

R. D. Dickens, Dept. 500 dynamics test lab engineer, based at GD/Convair Plant 1, is author of an article appearing in the September issue of Electronic Industries magazine.

Under the title, "Analyzing Data by Least Squares," he presented a simplified explanation of application of the method used to determine the true value of common factors affecting data with respect to gyros and displacement transducers with the maximum of accuracy.



CONVERTERS—Solar panels using new concept for converting sun's energy into power for space vehicles, developed by General Atomic at San Diego, will be sent into orbit this fall.

GD/Atomic Solar Power Unit Will Be Orbited

Wafer-thin solar thermoelectric panels, representing an entirely new concept for converting the sun's energy into auxiliary electrical power for space vehicles, will make their maiden voyage into space this fall aboard an Air Force satellite.

Developed by the General Atomic division of General Dynamics Corporation, the new solar converters have the marked advantage over present silicon solar cell systems of being relatively insensitive to radiation, including that from the Van Allen belts. They also have potential weight and cost advantages.

Built by General Atomic for Lockheed Missiles & Space Company and the U. S. Air Force Systems Command's Aeronautical Systems Division, the flat panels consist of a large number of tiny thermoelectric elements made of a semiconductor material "sandwiched" between two thin metallic sheets — one a collector and the other a radiator.

Initially, three four-inch-square panels will be tested as part of an experimental package to be sent into orbit from Vandenberg Air Force Base, Calif., aboard a Lockheed-built Thor-Agena assembly.

Unlike photoelectric solar cells which convert sunlight directly to electricity, the panels first convert the sun's energy to heat and then to electricity, the operating principle being that a temperature difference across a thermoelectric material causes electric current to flow. The electricity could be used for powering space vehicle controls, guidance systems, scientific research instruments, television and other communications systems.

The panels owe their radiation resistance to the fact that thermoelectric elements are not dependent on high purity materials for successful operation. In contrast, silicon photoelectric solar cells must be made of extremely high purity materials and their performance may be seriously degraded by effects introduced by exposure to radiation in space.

Once in space, the panels will be extended from the satellite on a boom and exposed to the sun's energy. Each panel is designed to produce one-fourth watt of electrical power when exposed to full sunlight. In this test the electricity produced will not be used as auxiliary power on the satellite.

To produce electricity, the solar thermoelectric panels depend on a temperature difference between the collector plate, which faces the sun, and the radiator, which faces away from the sun. The collector converts solar energy to heat which passes to the thermoelectric elements. These, in turn, convert the heat to electricity which may then be withdrawn by completing a circuit across the collector and radiator. The radiator rejects unconverted heat into space.

In the range of a few watts to several hundred watts, the concept shows promise of being both lighter and cheaper for use in an earth orbit than any other type of auxiliary power generating system with similar output.

Runways Flooded in Rainy Weather Tests of Convair Jet 990 at Seattle

A wide-ranging Convair 990, ship No. 2, sped to Edwards AFB, Calif., last week, for further test flying shortly after a damp sojourn in the Pacific Northwest.

Although Federal Aviation Agency airworthiness certification for the Swissair 990A version was received this month, No. 2 was tabbed for further checkouts on additional customer-required items for both Swissair and American Airlines.

Completion of its present demonstrations is slated for next week, say General Dynamics/Convair flight test engineers. Besides FAA observers, GD/Convair crew members are John Knebel, captain; Warner Lowe, flight test engineer; Jack Fogleman, flight engineer; F. W. Chapman, weights engineer.

No. 2 was based in Seattle, Wash., the first 10 days of this month for wet runway takeoff and landing demonstrations for American. Purpose was to gather information to determine optimum brake pressure for landings on rain-soaked runways. Accumulated data now is being readied for evaluation.

Although grounded for a couple of days during heavy natural rains and gale winds, the sturdy jetliner made 52 landings during nine flights.

Ready-made wet conditions were achieved with four City of Seattle engineering department water trucks dousing the King County Airport runway with 8,000 gallons of water as the 990 swung in for landings.

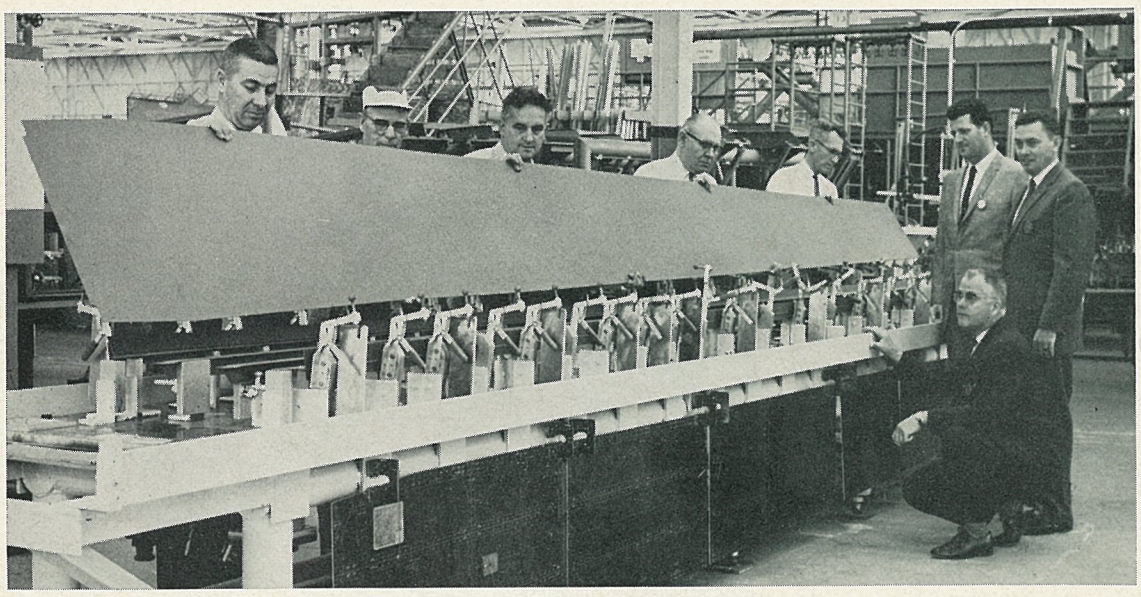
All of the GD/Convair team accompanying the plane expressed appreciation to Boeing Co.'s manager of flight test and supporting services, O. W. Crockett Jr.; chief of commercial flight test, William Lieberman; operations engineer and coordinator, William Daniels, as well as King County Airport personnel for their assistance in providing facilities and people during the operation.



"After thirty days practice they let us work on people."



"We have a number of occupational hazards . . . I'll introduce you to some of them."



C-141 MILESTONE—First assembly of C-141 empennage parts at GD/Convair Oct. 10 is witnessed by (at right) Mel Thurman, Lockheed source control inspection representative; J. M. Adamson, C-141 program manager; N. P. Pearson (kneeling), in charge of C-141 production. Placing web on stringers for vertical stabilizer rear spar assembly in fixture are E. E. Miller, assistant foreman; Stephen Smyczynski, Ed Minch, Mel Dorr. Second from left is G. W. Just, FAA designee inspector.

Entries to Close in Four Days For Sports Car 'Field Day '62'

Four days remain for sports car drivers to mail in advance entries if they intend to compete in CRA Sports Car Club's annual "Field Day '62." No mail entries will be accepted after this Sunday (Oct. 28), reminded CRA Commissioner Gerry Wright.

The championship event is slated for Nov. 4 at Ream Field, near Imperial Beach, with technical inspection starting at 8 a.m. All General Dynamics sports car drivers are urged to turn out for the main event on the CRA group's agenda.

Entrants will run in time trials, slalom, acceleration and braking tests with all events scored in accordance with the Asebring Code.

Time trials, on the 1.7-mile circuit laid out on the Ream Field runway, will consist of four continuous laps—two for familiarization and warmup and two timed laps.

Slalom running time is approximately three minutes and the acceleration and braking test will be run on a one-tenth mile straightaway.

Each contestant will be timed by three watches with timing to the nearest 1/100-minute or less. Scoring will be on the basis of total time for all three events within each class.

Dash plaques will go to the first 100 entrants and trophies will be awarded for first through third place in each class.

Only sports class vehicles will be eligible. They will be entered in the following classes: under 1,300 cc; 1,300-1,599 cc plus Alfa Guiletta Super Spyder and Sprint; 1,600-2,099 cc plus Porsche 1,600 Super and Super 90; 2,100-2,999 cc plus Porsche Carrera or Carrera G.T.; 3,000 cc and over; women, under 1,300 cc; women, 1,300 cc and over; modified cars with added accessories and modifications to the engine and running gear not readily available to majority of contestants.

Bob Chillo, as field marshal, heads the CRA team in charge of arrangements. Jack Hurt is in charge of time trials; Lou Barnes, slalom; Spud Riggs, acceleration and braking; Commissioner Wright, facilities; Clark Kerr, awards; Vern Mathews, safety inspection; Gerry Coffey, publicity; Sid Weiner and Art Andress, scoring; Chase Allen, registration; Hank Callihan, photography; Tom Kienholz, announcer.

Entries, accompanied by $3 preentry fee, may be mailed to Convair Sports Car Club, 2705 Tonto Way, SD 17. Post entries will be $3.50 at the Ream Field site.

Aeromodelers Will Take Part In Tri-Club Free Flight

General Dynamics aeromodelers are heading toward their big event of the season, second annual Tri-Club Free Flight Model Plane Meet at Lake Elsinore this coming Sunday (Oct. 28).

The meet, scheduled from 8 in the morning until 3 p.m., is sponsored by CRA Aeromodelers, Astro Modelers, and San Diego Orbiteers.

Don Larsen, CRA club president, said that at least 100 entries from the San Diego and Los Angeles areas are expected to compete. The meet, sanctioned by Academy of Model Aeronautics, is open to all AMA members.

Six events to be flown are: ½A gas powered, A gas, B-C gas combined, rubber powered, Nordic class towline glider, and hand-launched glider. Entry fee is $1.25 for each event.

Trophies will go to the top three times in each event and ribbons to fourth and fifth. Sweepstakes winner will receive a special award. Merchandise prizes will award various accomplishments. Models will be judged on total duration of three or five official flights, depending on event flown, with Academy of Model Aeronautics rules governing all events.

Contest director is Roland Dexter of General Atomic, assisted by Larsen and Nat Antonioli, both of GD/Convair, and Chuck Ogle of GD/Astro.

Spectators are welcomed at the all-day event at the Lake Elsinore flying site located 60 miles north of San Diego on Hwy. 395, then 10 miles northwest on Hwy. 71.

Safe Hunting Class Planned

A jointly sponsored ARA-CRA Hunter's Safety Course is in the offing, if sufficient interest is shown among dependents of General Dynamics employees at San Diego.

The course is for both boys and girls who desire to obtain a California hunting license before their 16th birthday. Licenses will not be issued without successful completion of the course.

R. T. "Bob" Andrews, ARA Rifle Club commissioner, will teach the course. It may be offered in the evening or on Saturday, dependent upon the desires of those signing up.

Normally, a class consists of from 12 to 14 students who spend three two-hour sessions, including one on the rifle range. Participants are taught the fundamentals of safety, firearm handling and shooting.

Registrations will be taken on a first-come, first-served basis for those contacting Andrews at ext. 1462 at Astronautics. The course will be taught at the ARA-CRA utilized Gillespie Field facility.

Gardeners to Show Their Best Blooms

Flower lovers will have a chance to view prize blooms of General Dynamics gardeners at the joint CRA-ARA Fall Show Sunday (Nov. 4) in Balboa Park's Floral Association Bldg.

Chrysanthemums and roses will share top billing. Arrangements, corsages, and children's divisions also will be open for entries from 7 to 11 a.m. on show day.

Displays will be open to the public without charge from 1 to 6 that afternoon, said ARA Commissioner Everett Henderson and CRA Commissioner Gene Zimmerman.

Turkeys Prizes In Nov. 4 Shoot

Top sharpshooters will be taking home turkeys for their performance at CRA-ARA Gun Club's annual Turkey Shoot set for Sunday (Nov. 4) at Gillespie Field range. Starting time is 9 a.m.

Luck and skill will determine winners in the 25-bird trap and skeet events, said CRA Commissioner Jack Swank and ARA Commissioner Ezra Johnson.

Scores, based on a point system, will decide prize takers in the rifle competition.

"Everyone will have an equal chance to win a Thanksgiving bird," stressed Swank, who urged all GD gunsmen to turn out for the yearly shoot.

Hunters are reminded that entries are being accepted at all employee services outlets for the Big Game drawing.

Top '62 Apprentice In Regional Race

GD/Convair's outstanding apprentice for 1962, Francis L. Dohm, was the division's only contestant in the state tool and die contest held in Los Angeles early this month.

The annual contest, sponsored by the Southern California Tool and Die Association, was held at the Pan Pacific Auditorium in conjunction with the 1962 Western Tool Exposition.

Navy Reserve Unit Reports Openings

Pay-status billets in Naval Reserve MSTS Division 11-1 at San Diego are now available for reserve officers in the rank of lieutenant and below, according to Lt. Cmdr. Ed Dangler, division training officer.

Experience in sea transport or Merchant Marine service is desirable but not required. Interested officers may contact Dangler at Plant 2 ext. 1598 for additional information.

Salvage Schedule Set For Month

Salvage yard schedule for next four weeks:

GD/Convair—Oct. 27, Nov. 10.

GD/Astro—Nov. 3, 17.

Yes Vote Urged For Props. 1A and D; Bond Issue Vital For Education

(Continued from Page 1)

120,000 students and present facilities simply cannot accommodate the student body growth.

"The portion of the bond issue not allocated to education is committed only to specified facilities for mental health, forest conservation, narcotics and crime control."

Both gubernatorial candidates are supporting the measure as well as the California Taxpayers Association and the California Federation of Labor.

Biron also recommended favorably Proposition D which provides for a unified Port Authority for San Diego.

"We need this measure to insure a properly planned development of San Diego's harbor facilities, which in turn will mean improved business conditions and a healthier economy," he added.

JOE WILLIAMSON LEADS SHOOTERS

Joe Williamson (Dept. 401-5) was top scorer in both the .22-cal. Police Course and .22-cal. Short National Match in CRA Pistol Club competition Oct. 14.

He shot 291 out of a possible 300 to take the Police Course event and won the Short National with 283. Then, he took off to try his marksmanship on big game on his annual trip in Colorado.

Vern Mardis (Dept. 34) was second in the Police Course's master class with 281.

Comissioner Ash Bishop was first in the expert class, scoring 276. Ralph Picard of GD/E came in second with 274.

Mardis also trailed Williamson in the Short National with a 274. Bishop was third with 271; Jim Halfacre (Dept. 140), fourth, with 267.

Next Pistol Club matches will be Sunday (Oct. 28) at 9:15 a.m. at the SD Police Pistol Course, Federal Blvd. and Home Ave.

Sports Car Club Installs Barnes

Lou Barnes was installed president of the CRA Sports Car Club at an Oct. 13 dinner meeting held at Harold's Fifth Ave. Restaurant.

Others on the new slate of officers are Bob Chillo, vice president; Dorothy Barnes, secretary; and Gerry Coffey, treasurer.

Judicial board members are Sid Weiner, Hank Callihan, Jack Hurt, Jim Wainwright, Spud Riggs, and Fred Thatcher.

Next business meeting of the Sports Car Club is set for Nov. 7, 7:30 p.m., in the Convair executive dining room, Pacific Hwy.

Mgt. Club Will Meet Tonight at Stardust

Management Club members at GD/Convair and GD/Electronics still have this afternoon to pick up tickets for tonight's (Oct. 24) evening of entertainment at Stardust Country Club, Mission Valley.

Tickets, at $2.50 each, are available at regular outlets. Social hour is at 5:30 p.m. and dinner at 6:30.

Industrial relations department has booked Zeno Klinker and his humorous program of aviation movies. MacSave-it and Mug of the Month awards will be presented.

L. G. Lawson, past president, will preside in the absence of club president, E. R. Fink, who is attending the NMA annual convention, Buffalo, N. Y.

'Slow' Basketball Adopted For 1962

Shop league basketball at GD/Convair will be in slower tempo this season, said CRA Commissioner Pete Beyrer.

"Slow break" ball, geared for players just a little short of breath, will be substituted for the conventional game. Rules of the "slow break" require that the offensive team must give the defensive team a chance to trot back over the center line before making an offensive play.

The game will be explained fully at a managers meeting Friday (Oct. 26) at 5 p.m. in the CRA Clubhouse, said Beyrer, who urges representatives of Convair and Electronics teams to attend.

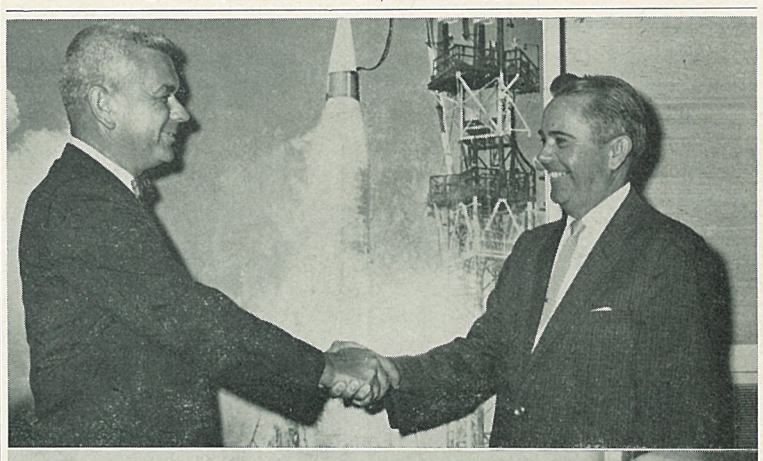
League play will begin around the middle of November in Muni Gym, Balboa Park.

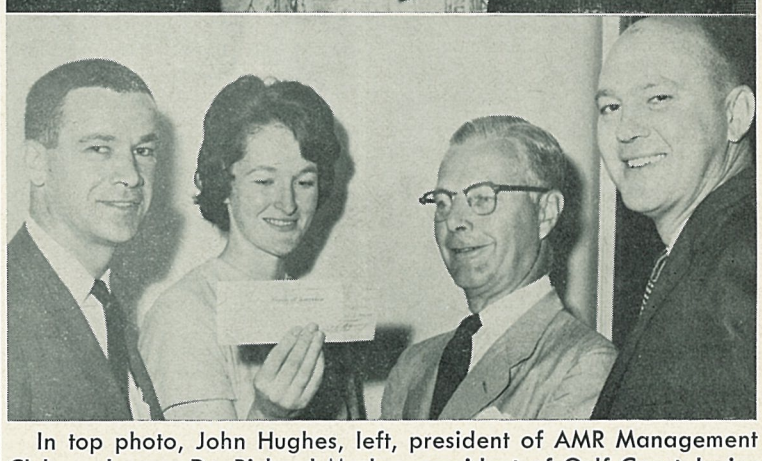
Archers Will Plan Annual Bird Shoot

CRA Archery Club members will meet next Tuesday (Oct. 30) at the home of Commissioner Al Phipps to lay plans for their annual turkey shoot next month.

Meet time is at 7:30 p.m. at the Phipps' home, 2318 Upas St., in the North Park area.

Also under discussion will be ground rules for selection of teams to represent the CRA group in upcoming competition, said Phipps.





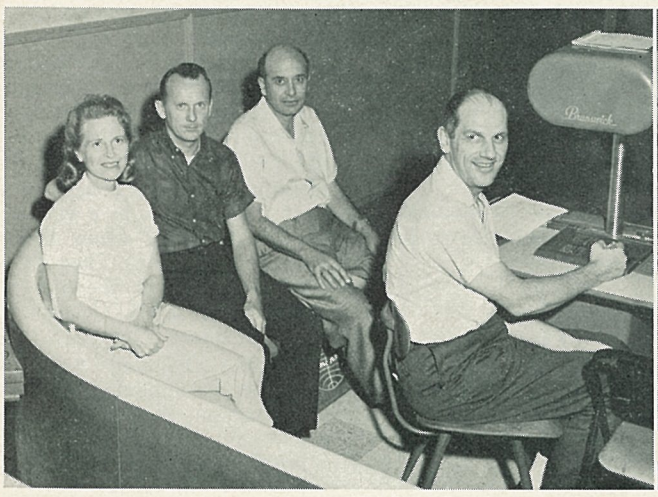
In top photo, John Hughes, left, president of AMR Management Club, welcomes Dr. Richard Morley, president of Gulf Coast Junior College, speaker at club meeting. In lower picture, shown at Plattsburgh, N. Y., where GD/Astro folk gave $6,000 to Community Chest, are Norman Harper, Beverly Boruk, Drive Chairman Donald Terry, and John Hotaling.

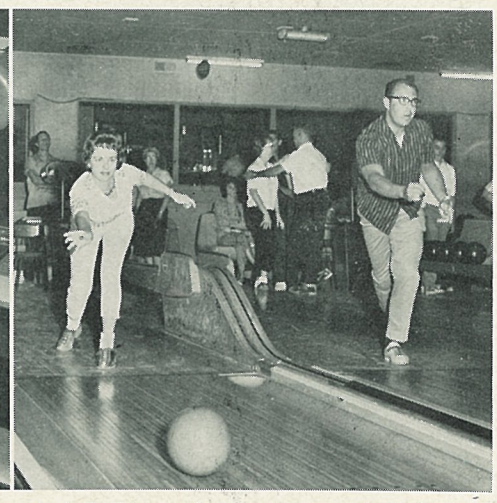






PIN TOPPLERS—GD/E and GD/Convair keglers are in midst of winter league bowling action with over 250 forming seven leagues in hot competition. Above are (from left) GD/E Strike Outs: Jo Taramasco, Irene Hanson, Rudy Jimenez, Riley Reed, Len Hanson; Hanson and Bob Durnell of GD/E Woodless Wonders try skill; at right, GD/Convair Soaks: Caroline Lucas, Paul Wayman, Barbara Macdonald, Clyde Dyer, Danni Carlton. All bowl Wednesdays at Pacific Recreation.





WAIT TURN—GD/E Woodless Wonders: Lorene Hawks, Bob Whitmarsh, Art Zagon, Bob Durnell ready for chance at alley while (at right) Barbara Macdonald of GD/Convair Soaks and Ed Rosa of GD/Convair Happy Five try for strikes.

Sports & Recreation

CRA Calendar

(In view of the fact that General Dynamics NEWS now carries the complete CRA calendar only at intervals, it is suggested that readers clip this activity list for future reference.)

★ ★ ★

AEROMODELERS — Gene Whigham, commissioner, ext. 733, Plant 1. Meetings first and third Thursdays, 7:30 p.m. Open flying sessions, Clairemont Mesa Flying Site, Saturdays and Sundays, 7 a.m. to noon. For information call Don Larsen, ext. 2289, Plant 1.

ARCHERY—Al Phipps, commissioner. Home phone CY-5-8194. Club meets third Thursday, 7:30 p.m., CRA Clubhouse, Pacific Hwy. Workshop in clubhouse, open each Thursday, 7-9 p.m. Monthly shoots second Sunday of each month, Balboa Park range. CRA office, ext. 1245, Plant 1, for information.

BADMINTON—Call CRA office, ext. 1245, Plant 1, for information. Organized play and instruction Tuesdays, 7:30 p.m., Federal Bldg., Balboa Park. Open play for General Dynamics employees and families each day.

BASEBALL — Pete Beyrer, commissioner, ext. 1245, Plant 1.

BASKETBALL—Call CRA office, ext. 1245, Plant 1.

BOWLING—Jim Hayman, HO-9-1262; Mike Brooks, HO-9-8793, commissioners. Call CRA office, ext. 1245, Plant 1, for information.

BRIDGE CLUB—Pete Beyrer, commissioner, ext. 1245, Plant 1. For information call Frank Westphal, ext. 2321, Plant 1. Meetings every Tuesday, 7:30 p.m., Hotel Barcelona, 326 Juniper St.

CAMERA CLUB — Regular meetings second and fourth Mondays, 7:30 p.m., Photo Arts Bldg., Spanish Village, Balboa Park. Darkroom in CRA Clubhouse available to club members. For information call Ron Ainsworth, ext. 1431 Plant 1.

COIN CLUB—Meetings third Thursday of each month, 7:30 p.m., Convair cafeteria executive dining room, Pacific Hwy. For information call ext. 1245, Plant 1.

DELTA DIVERS — Harry Ruscigno, commissioner, ext. 2382, Plant 1. Meetings third Tuesday of each month, 7:30 p.m., Convair executive dining room, Pacific Hwy.

FENCING CLUB—Workouts and instruction each Friday night, 7-10 p.m., YWCA, 10th and C Sts. For information call Pete Beyrer, ext. 1245, Plant 1.

FISHING—R. W. Menzie, commissioner, home phone, AT-1-8247. Club meets third Tuesday of each month, 7:30 p.m., Gillespie Field Clubhouse.

GARDEN CLUB—E. L. Zimmerman, commissioner, home phone, BR-7-3383. Club meets second Wednesday of each month, 7:30 p.m., Floral Association Bldg., Balboa Park.

GLIDER CLUB—Gene Whigham, commissioner, ext. 733, Plant 1.

GOLF—Ken Wulfemeyer, commissioner, ext. 1705, Plant 1.

GUN CLUB — Jack Swank, commissioner, ext. 2583, Plant 1. Club meets second Tuesday of each month, 7 p.m., rifle, trap and skeet, first Sunday of each month at CRA range, Gillespie Field, El Cajon. Open shooting each Sunday, and Wednesday and Friday evenings during summer months.

ICE SKATING—Skating sessions for General Dynamics employees and their families each Thursday at Iceland, 6055 Lake Murray Blvd. Special General Dynamics rates between 6:30 and 8 p.m. For information call ext. 1245, Plant 1.

IN-PLANT ACTIVITIES—Equipment available for horseshoes, washer pitching, shuffleboard, chess, checkers, also cards for bridge, pinochle, etc. Contact CRA headquarters, ext. 1245, Plant 1.

JUDO — Pete Beyrer, commissioner, ext. 1245, Plant 1. Instruction each Thursday, 7 p.m., CRA Clubhouse on Pacific Hwy.

MODEL RAILROAD — Pete Beyrer, commissioner, ext. 1245, Plant 1. Meetings each Friday at 7:30 p.m., House of Charm, Balboa Park.

MOVIES—Reduced-price movies every day at State Theater, Euclid & El Cajon Blvd. Admission: adult, 75c; children under 12, 20c.

PISTOL CLUB—Ash Bishop, commissioner. Home phone, BR-4-1549. Club shoots second and fourth Sundays of each month at 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—James Lack, commissioner, ext. 2958, Plant 1. Club meets Thursday after issue of **General Dynamics NEWS**, 8 p.m., at Radio Club Headquarters, Harbor Drive.

RIDING CLUB—Regular meeting first Thursday of each month, 7:30 p.m., Gillespie Field Clubhouse. Call CRA office, ext. 1245, Plant 1, for information.

ROAD RUNNERS—Ralph East, commissioner, ext. 1347, Plant 1. Trailer club meets third Thursday of month, 7:30 p.m., CRA Clubhouse, Gillespie Field. Call Pete Beyrer, ext. 1245, Plant 1.

ROCKHOUNDS—Dan Whorton, commissioner, home phone, CO-2-7047. Lapidary classes Tuesday, 7-9 p.m. Rockhound Shanty, Pacific Hwy. Classes for second shift, Tuesdays, 12:30-2:30 p.m. Regular meetings second Thursday of each month, 7:30 p.m., Gillespie Field CRA Clubhouse.

ROLLER SKATING—GD/Convair skate night third Monday each month. Free tickets at employee services office, Plant 1. Saturday matinees each week, 2-4:30 p.m., Skateland, Front and G Sts. Admission 25c per person for General Dynamics employees and their families. Admittance by club membership card. Cards available at employee services.

SKI CLUB—Joe Harris, commissioner, home phone, AT-4-0278.

SOFTBALL—Tony Berardini, commissioner. Call CRA office, ext. 1245, Plant 1, for information.

SOLO FLYERS—Gene Whigham, commissioner, ext. 733, Plant 1.

SPECIAL EVENTS and COMMISSIONERS-AT-LARGE — Grayce Fath, Paul Pearson.

SPORTS CAR CLUB—Gerry Wright, commissioner, ext. 2868, Plant 1. Club meets first Wednesday of month, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SQUARE DANCING — Maury Scholz, commissioner, CY-5-3806. Call CRA office, ext. 1245, Plant 1, for information. Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave. Party night, fourth Saturday of month, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

STAMP CLUB—Jack Benedict, commissioner, ext. 2572, Plant 1. Meetings first Thursday of each month, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SWIMMING — Pete Beyrer, commissioner, ext. 1245, Plant 1. Family swim night first Saturday of each month, 7-9 p.m., Mission Beach Plunge. Free tickets at employee services. Discontinued for winter months.

TABLE TENNIS — Pete Beyrer, commissioner, ext. 1245, Plant 1.

TROPICAL FISH—Pete Beyrer, commissioner, ext. 1245, Plant 1. Club meets second Tuesday, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

WATER SKI CLUB — Gene Sevigny, commissioner, ext. 2779, Plant 1. Regular meetings fourth Thursday of each month. Weekend skiing during summer months off Santa Clara Point, Mission Bay.

Hoop Players Begin Practice Workouts

Basketball players at GD/Convair and GD/Electronics interested in action this season are urged to attend practice workouts for the IRC league on Thursday afternoons, 4 p.m., in Balboa Park's Muni Gym.

The pre-season industrial tourney will start around Dec. 1 with league play getting under way the first of the year.

Any player may get additional information from Dee Trepanier, ext. 656, Plant 1.

Square Dancers Prance Oct. 27

San Diego square dancers will prance at the 11th annual Ghost Walk hosted by CRA Hoedowners this Saturday night (Oct. 27) at the American Legion Hall, 4061 Fairmount Ave., 8-11 p.m.

CRA Commissioner Maury Scholz invites all GD/Convair, Astro, Electronics square dancers, as well as any others in the San Diego area, to join in the Halloween fun. Costumes are in order, but not necessary, he said.

Don Browne, Hoedowners' caller, will be spelled by guest callers during the evening.

Ken and Edith Empey, vice presidents of the CRA group, and Lou and Connie Charity, publicity chairmen, are sharing responsibility for decorations, refreshments, and other arrangements.

Over 50 Hoedowners and members of their families joined in a potluck and dancing session Oct. 7 at the Gillespie Clubhouse. CRA furnished the main ham course, rolls, and coffee.

Scholz reminds GD square dancers that intermediate and advanced dancing is held each Tuesday evening at the American Legion Hall with birthday and all-singing call night every second Tuesday.

Family Halloween Party Scheduled

Goblins and black cats will cavort at CRA Riding Club's family Halloween party this Saturday night (Oct. 27) at Gillespie Field Clubhouse.

"All 'horses' and 'colts' are to be in costume," said V. V. Thomason, club president.

The gala affair will start off with a 7 o'clock potluck, followed by games, contests, prizes for the children. Wives will supervise entertainment for the kiddies.

Dancing for the oldsters to strains of the Color Guard Combo will round out the evening.

Water Ski Sessions On Phone Call Basis

Water skiing for GD/Convair and GD/Electronics fans will be scheduled on a phone-call basis after the first of November, said CRA Commissioner Gene Sevigny.

Any time enough skiers wish to join in a weekend skiing session, arrangements will be made. Calls will be taken by Jack Loos at ext. 2456, or Sevigny, ext. 1657, both Plant 1.

76 Score Low In CRA Event At Circle R

Fred Wells of GD/Convair Dept. 3 shot best low gross score of 76 in the CRA links tourney over Circle R course the weekend of Oct. 6-7.

Second low gross in the 0-15 flight was stroked by Bill Matlock (Dept. 6) with an 81.

Jake Moore (Dept. 24) stood first low net, 67, trailed by one point by Jerry Swarts (Dept. 48) with 68 for second place.

In the 16-21 flight Wayne Turner (Dept. 3) had first low gross, 84; John Serafin of GD/E, second, 86.

Tobe Hunley (Dept. 400) and G. G. Baker (Dept. 171) stood even-steven for first low net with 69s.

In the 22-and-over flight George Thiersch (Dept. 23) held first low gross with 88; Lee Woll, (Dept. 3), second low gross, 94. Jinks Janssen (Dept. 14) was first low net scorer with 66; Fred Kershaw (Dept. 215) second low net, 67.

Golf Tournament Entry List Open

Entries in the Nov. 10-11 CRA golf tournament at Carlton Oaks Country Club will open tomorrow (Oct. 25), said CRA Commissioner Ken Wulfemeyer.

Turkeys will go to first-place winners. Greens fees are $3.50.

Entries must be made before Nov. 1 by calling ext. 1705, Plant 1.

Road Runners Slate Outing

Next outing of the GD/Convair Road Runners will be this weekend, Oct. 26-28, to CRA's new recreation area, Pine Crest.

Bill Branch will direct the weekend jaunt as wagon master with Frank Grief, assistant.

A Halloween parade, costume contest, games are in store for the children, as well as the adults, according to Ruby Becker, chairman of entertainment.

Plans are being made to enter the prize-winning road runner and trailer float in the Spring Valley Parade this Sunday (Oct. 28) at 2 p.m. Ivar Peterson is in charge of details.

'False Alarm' Team Triumphs in Playoff With 'Crash Crew' For Fire Dept. Title

False Alarms swept a four-game play-off to emerge top team in GD/Convair Fire Department's summer bowling league play. Team average for the play-off series was 644.

Crash Crew took second place after they had ended the season tied with False Alarms at 42 wins, 16 losses.

Members of the first-place team were Chuck Paularena, Dean Halstead, Paul Gute, and Ray Sanger. Gute was tabbed most improved bowler.

Keglers on the Crash Crew were Leo Slosser, also holder of high individual series score, 595; Paul Conkle, Robert Cowan, Jim Birdsong.

Ron Serfass of the Fearsome Four won the trophy for high individual game with a score of 224.

Firemen are now competing on an individual basis in a 40-week Peterson points singles schedule at Frontier Lanes. At last reading, Chief D. D. Dimmett was leading the pack with high game of 214, high series, 614.



"HOT" KEGLERS—First-place team members of GD/Convair Fire Department summer bowling league are (from left) Chuck Paularena, Paul Gute, Dean Halstead. Other firemen displaying second-place and individual trophies are Don Spencer, Clayton Hassel, Bob Purdy, Hugh Rae, Charlie Hamel.

Terrier, Tartar Ships Will Total 35 When Albany Joins Fleet

USS Albany (CG-10), first of a new guided missile cruiser class, will join the U. S. Fleet following recommissioning ceremonies scheduled at Boston Naval Shipyard Nov. 3. General Dynamics/Pomona-produced Tartar missiles provide secondary armament for the Talos-Tartar ship.

Two other Albany class ships, USS Chicago (CG-11) and USS Columbus (CG-12) are being converted to guided missile cruisers —the Chicago at San Francisco Naval Shipyard and the Columbus at Puget Sound Naval Shipyard.

General Dynamics Corporation will be represented at the Nov. 3 ceremonies in Boston by G. E. Sylvester, vice president—operations, who will present a set of quarterdeck markers—scale models of Tartar missiles—to the ship on behalf of General Dynamics/Pomona.

Albany, built as a heavy cruiser (CA-123) by Bethlehem Steel Co., Quincy, Mass., was launched June 30, 1945. Commissioned June 15, 1946, Albany served with the Second and Sixth Fleets until placed out of commission on June 30, 1958. Her hull classification and number were changed to CG-10 effective Nov. 1, 1958.

The guided missile cruiser has an overall length of 674 feet, 11 inches, extreme beam of 70 feet 10 inches and displaces 13,700 tons.

Albany (CG-10) is the fourth ship to have been named for the capital city of New York. The first Albany, a 1,064-ton sloop-of-war, was launched June 27, 1846. She was armed with four 8-inch smoothbore rifles and eighteen 32-pounder rifles. The ship was lost at sea in 1854.

The second Albany, a screw sloop-of-war, was commissioned March 14, 1868. The ship was armed with eight 9-inch guns, one 60-pounder rifle, four 24-pounder bronze howitzers and one 12-pounder bronze howitzer. This ship was placed out of commission on Jan. 7, 1870.

A protected cruiser, the third Albany, was built by Armstrong, Mitchell and Co., Newcastle on Tyne, England. Originally the Brazilian cruiser Almirante Abreau, the ship was purchased while on the ways March 16, 1898. Renamed Albany, the ship was 254 feet in length, with a beam of 43 feet and displacement of 2,769 tons. Armament consisted of six 6-inch guns, four 4.7-inch guns, ten 6-pounders, eight 1-pounders, two .38-caliber guns and three 18-inch surface torpedo tubes. Following service in World War I, the ship was decommissioned.

When Albany joins the fleet, the Navy will have a total of 35 ships armed with Advanced Terrier and Tartar missiles built by General Dynamics/Pomona. This includes two aircraft carriers, three heavy cruisers, one nuclear-powered cruiser, three light cruisers, one nuclear-powered "double-ender" destroyer leader (frigate), 10 single-launcher destroyer leaders, one "double-ender" frigate and 14 destroyers.

VALUE ENGINEERS ELECT B. W. KAHLA

A General Dynamics/Convair man will head the San Diego Chapter of Society of American Value Engineers (SAVE) following election of first permanent officers this month.

B. W. Kahla, chief of systems and procedures at GD/Convair and former deputy value control coordinator at GD/Fort Worth, is newly-elected president.

Other officers are R. D. Allen of Ryan Aeronautical Co., first vice president; C. W. Christie of GD/Electronics, second vice president; D. D. Shirk of Solar Aircraft, secretary; and H. L. Braasch of Ryan, treasurer.

Next SAVE meeting will be Nov. 6 at Bahia Hotel on Mission Bay for installation ceremonies. Speaker will be M. E. Davis, value analysis coordinator of Spaulding Fibre Co.

Symposium Hears Two From Pomona

A. C. McMaster and E. D. Heller of General Dynamics/Pomona spoke Saturday (Oct. 20) at a Product Assurance Symposium conducted by American Society for Quality Control, San Fernando Valley Section, at Glendale, Calif.

Heller, GD/Pomona value control coordinator, spoke on "Product Assurance Through Value Assurance." He was speaker for opening session on value engineering.

McMaster, GD/Pomona director of quality control, spoke during quality engineering portion of symposium. Subject of his talk was "Assurance Specified and Controlled in Open Competition."

Hustler Refuelers Decorated by AF

Air Force Commendation Medals have been awarded to seven KC-135 combat-crew members from 305th Bomb Wing who helped refuel a B-58 Hustler on its record-breaking Los Angeles to New York flight.

Crews are Maj. M. J. Beaucond, and Capts. J. A. Fuchs and E. J. Breax Jr.; and Capt. C. T. Bates, Lts. D. L. Austin and T. J. Stewart Jr., and M/Sgt. W. E. Hicks.

Col. Frank L. O'Brien Jr., 305th commander, presented the medals for "demonstration of outstanding airmanship and professional knowledge."

The B-58 smashed three records during the round-trip flight.

Electronics Course Offered by U. of Cal.

A seminar course, "Marketing Management in the Electronics Industry," will be offered throughout the next month by University of California Extension for San Diegans employed in electronics.

Four day-long seminars will be held at the Kona Kai Club, Shelter Island. First will be this Saturday (Oct. 27).

General Dynamics people interested may obtain information from University Extension office, 1221 Fourth Ave., SD, BE-2-7321.

Data on Flow Study Presented in Paper

Harvey Dershin of GD/Pomona physics laboratory presented a paper at the Air Force Office of Scientific Research Separated Flow Conference held Oct. 9-10, at Princeton University, Princeton, N. J.

"Separated Flow Studies at General Dynamics/Pomona" was the title of a paper based on Dershin's recent research.



CURRENT REPORTER—John K. Liu of GD/Electronics at Rochester lowers new sensing device into Seneca Lake. It detects ocean currents and has wide applications in oceanography.

GD/E Develops Device To Sense Sea Currents

An underwater electronic device so sensitive that it can measure the velocity of a deep sea current that travels only one mile in 3½ days has been developed by General Dynamics/Electronics at Rochester, N. Y.

Only 8 inches in diameter and 9 inches long, the unit can also measure velocities as high as 20 knots—about three times the speed of any known ocean currents. In addition, it provides an indication of the current's direction with reference to magnetic North that is accurate to within two degrees.

The sensor is expected to have wide applications in oceanographic research for both military and scientific purposes.

Incorporating a transistorized amplifier powerful enough to provide a signal for direct recording over five miles of cable, the device requires a power input of only 20 milliwatts. Its normal output is in digital form that can be recorded directly on magnetic or paper tape or used to drive counter or meter readouts. Analog readouts are also possible.

Inertia of the rotor, which is only two inches in diameter, is reduced to a minimum by three means—use of high strength plastic that has neutral buoyancy in seawater; seawater-lubricated sapphire bearings; and a photoelectric revolution counter.

The unit weighs 12 pounds in air, 6 pounds in seawater and all its parts are either insensitive to pressure or pressure-protected to 35,000 feet.

Johnson Talks On Delta Wing

R. L. Johnson, director of flight at General Dynamics/Fort Worth, addressed high-ranking officials of the Air Force 84th Fighter Group, Spokane, Wash., late last month, describing development of delta-wing aircraft and speculating on future fighter planes.

Maj. Gen. Arthur C. Agan, Deputy Chief of Staff for Plans, Air Defense Command Headquarters, Colorado Springs, Col., special guest at the Commanders Dining-In gathering, followed the same trend in his talks on operational capabilities of past fighter aircraft and what military requirements of future aircraft might involve.

During the evening Johnson and Troy Vaughan, GD/Convair field service representative at Geiger AFB, presented ten F-106 pilot checkout and Mach 2 pins in a mass ceremony to a new group of 498th Fighter-Interceptor Squadron pilots who recently soloed in the Convair-built jet interceptor.

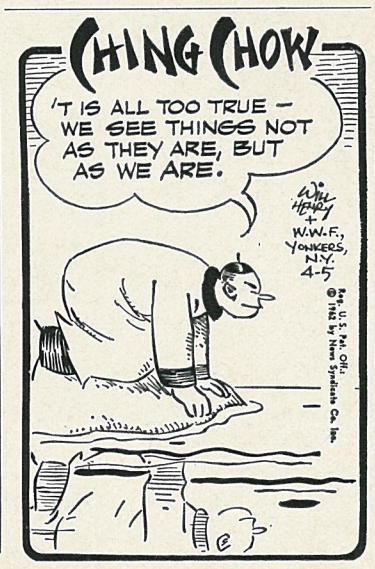
FATIGUE SPECIALIST ON LECTURE TOUR

Clarence R. Smith, GD/Convair fatigue research specialist, left last week for a three-and-a-half week junket which will take him across the country, and probably, into Mexico speaking before various groups and collecting material for a Navy-commissioned manual.

During his tour he will present his theory of fatigue life prediction to American Airlines overhaul base personnel, Tulsa, Okla., and attend the national convention of the Society for Experimental Stress Analysis at Milwaukee, Wis., this week, Oct. 24-27.

Other stops will be at Wright-Patterson AFB, Dayton, Ohio, and at Philadelphia, Pa., where he will speak before a meeting of the Society.

As the Society's international chairman for local sections, he plans to attend an organizational meeting to form a section of the group at the University of Mexico. In addition, he will visit aircraft overhaul bases in Mexico City and cities in the United States collecting material for the "Fatigue Manual for Aircraft Designers."



Spacecraft Moon Landing Simulated

Miniature "moon dust storms" are being created by General Dynamics/Astronautics scientists in preliminary studies concerning jet blast effects on the lunar surface.

Object of the studies is to determine just what happens as a jet blast from a spacecraft strikes the moon's surface in providing a cushion as it backs down for landing.

Answers are extremely important to astronauts who will make such a landing.

For instance, dust could billow up and obscure his vision; lunar particles could damage the craft; jets might create a deep hole into which the spacecraft would sink, etc.

Initial experiments concern the flow of a jet of gas in a vacuum and what happens when blasts strike a dusty surface. They show where the dust goes, the pattern it makes and what the shock wave looks like.

Simulating the moon's atmosphere was accomplished by creating a vacuum in a bell jar. A tiny glass replica of a rocket engine nozzle is mounted inside. An attached tube sends air through the nozzle to simulate the jet blast.

Present studies are not concerned with the presence of heat in the jet or the problem of heat transfer.

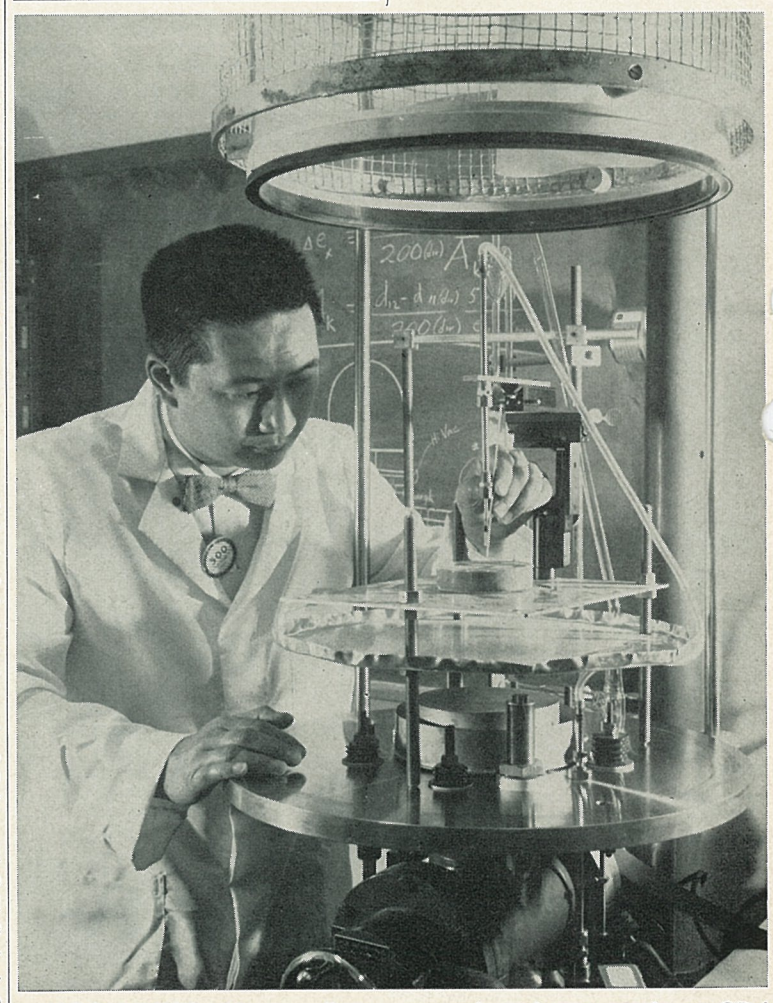
Since the composition of the moon's surface is unknown, Astro scientists are conducting experiments with a variety of different size dust particles and densities. Substances used include cork dust, powdered aluminum, talcum powder and sand. The thickness of the dust layers is varied, too.

Test substances are contained in a glass dish placed below the simulated nozzle. Test time is usually about one second. Run time is brief because the air flow causes the vacuum to be lost.

High speed motion picture cameras capture details of the test. Shadowgraphs are also made to study shock waves as the air hits the test surface.

Variations include various sized nozzles and different heights for the nozzle above the test surface.

Astronautics' fluid physics section of the space science laboratories is conducting the tests.



MOON DUST—Norman Fong, research assistant, works at GD/Astro on experiments to determine what happens when jet blast hits moon's surface. Vacuum is created in jar lowered over area. Tiny nozzle aims air blast at substances like powdered aluminum.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 23 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, November 7, 1962



DIRECT SERVICE—American Airlines Oct. 28 began 990 Astrojet service from San Diego direct to Chicago and New York. Assisting in send off are Don Germeraad, GD/Convair chief engineering test pilot, Judy Mack, AA stewardess, and Albert Harutunian Jr. of San Diego Chamber of Commerce.

Training Time Sharply Reduced Using Programmed Lessons

First full-term use of newly-developed programmed instruction for value control training during a regular GD/Convair seminar showed that as much as 25 per cent can be cut from former training time.

H. P. Williams, value control manager, said that the programmed instruction, presenting the material step by step, eliminates need for special lectures on techniques of value control.

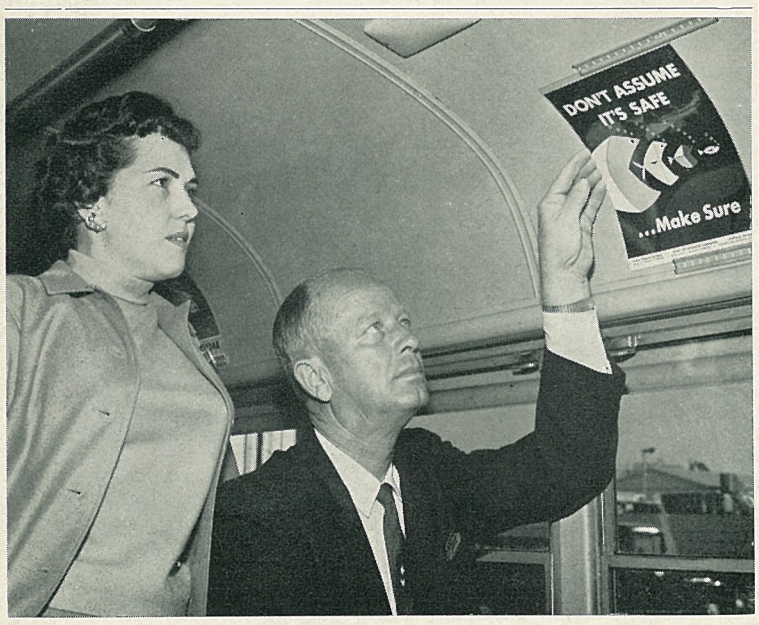
"This can save many hours of valuable time, and allows us to schedule continuous training for one or more teams a week at any time a problem area is in immediate need of analysis. For instance, two more teams started their training this Monday, Nov. 5, and will tackle a couple of projects in need of analysis at once."

The five-part series of programmed books for value control now is in final stages of evaluation with last revision expected by next month. All comments and reactions of the four teams using the instruction method during the Oct. 22-31 seminar will be reviewed in last analysis, said Williams.

Project leaders and team members were unanimous in their approval of the material. Comments included such observations as, "The textbooks are written in such a way that they hold the reader's interest from start to finish just as an expert speaker captures and keeps the attention of an audience. However, the written material has the advantage of always being available for review." This was from W. G. Martin, tooling department value control coordinator and one of the seminar's project leaders.

"I found the instruction was most valuable as a memory refresher as we reached various seminar training stages," Don Maxion of customer service and

(Continued on Page 2)



SIGNS OF SAFETY—William Burnett, transportation operations assistant foreman, and Virginia Stillman (Dept. 21) admire new safety posters recently installed in GD/Convair plant buses under direction of Ray Howard, garage service manager.

GD/Convair Con-Trib Campaign Slated

Annual membership campaign for Employees' Con-Trib-Club will be conducted at General Dynamics/Convair Nov. 12 through 16. This is independent of the GD/Electronics campaign which began early this month.

Tab cards will be distributed to supervision for those employees not presently Con-Trib-Club members. Employees will be asked to complete the cards, indicating whether or not they wish to participate in the program.

Completed cards should be returned to Ken Wulfemeyer, employee services, Zone 3-20, by Monday, Nov. 19.

Club Will Hear City's Future

Future of San Diego will be outlined for GD/Convair and GD/Electronics members of the Management Club at next Wednesday's (Nov. 14) meeting.

Robert F. Smith, executive manager of the San Diego Convention and Tourist Bureau, will describe plans for development of San Diego's potentialities. Smith was former assistant to General Dynamics' vice president-administration.

Location of the meeting is the Village Assembly in the new Vacation Village, Mission Bay Park. Social hour starts at 5:30 p.m., dinner at 6:30.

Tickets, at $2.75 each, are available now at regular outlets. Sponsoring is controller's department with R. G. Macomber, general chairman.

Con-Trib-Club Pledges $100,000 to Campaign

GD/Convair employees will contribute $100,000 to the United Community Services through their Con-Trib-Club payroll deductions over the next year.

The pledge, based on plant population, was approved at the Oct. 30 Con-Trib-Club Committee meeting.

In addition, $300 has been set aside for renewal of magazine subscriptions for use of patients of Vauclain Home and $250 was voted for the John Tracy Clinic to aid in its work with deaf children.

In-Plant Courses Have Full Rosters

GD/Convair in-plant courses this fall have topped enrollment previously marked up during at least the last two years, reports H. W. Rubottom, chief of educational services.

Now attending the 11 classes, offered in cooperation with San Diego City College, are 253 students. Although the classes are all held in Plant 1 locations, registration includes not only GD/Convair and GD/Electronics people, but GD/Astro personnel based at Plant 1, Plant 2, and at the Kearny Mesa site.

Coordinating the in-plant program is Wayne Turner of educational services.

TWO AWARDED IR CERTIFICATES

Two GD/Convair men have received Certificates in Industrial Relations following completion of the University of California Extension program. Certificates were presented Wayne Turner of educational services and Conrad A. Zamora of the medical section of industrial relations on Oct. 26.

Spacecraft Tests Start in Tunnel

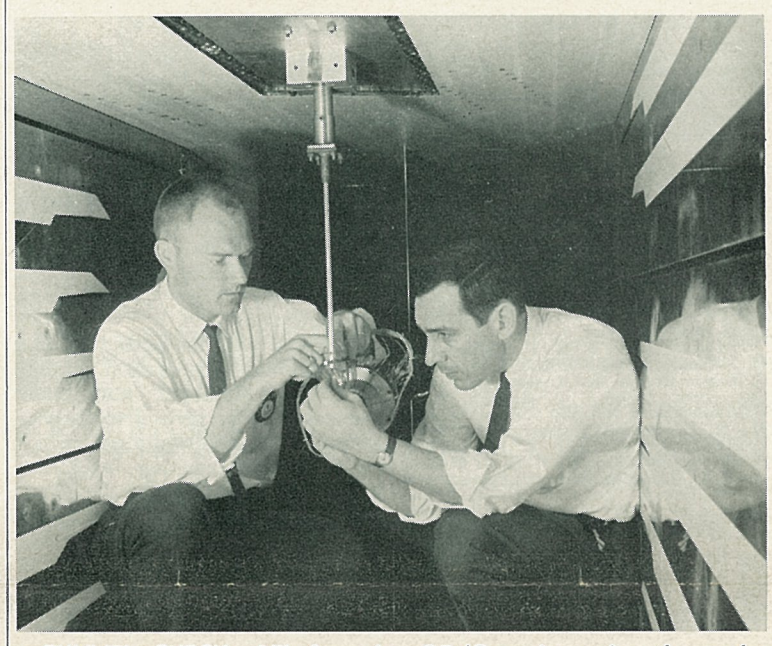
First checkouts of General Dynamics/Convair's recently-installed high speed wind tunnel modification are being observed by General Electric Co. engineers under a contract which will see GE exhaust nozzles tested in high speed conditions.

During first testing phase the sensitive "thrust-measuring balance," constructed specifically for exhaust nozzle testing, is being checked to see if it meets specifications, together with air supply, air control, pressure instrumentation, and the tunnel, itself, to assure top overall performance.

The advanced installation, under development since late spring, will place GD/Convair's high speed wind tunnel's capabilities for supersonic engine component testing beyond those of any other in the country (**General Dynamic NEWS**, Aug. 1).

GD/Convair was selected by General Electric to develop a flow drag balance for testing exhaust nozzles designed for high-speed

(Continued on Page 2)



TUNNEL CHECK—Bill Stemple, GD/Convair senior thermodynamics engineer, and Bob Christiansen, General Electric aerothermodynamicist, install nozzle exit survey probe on nozzle configuration ready for checkout in GD/Convair's high speed wind tunnel. New installation is joint aerodynamics-thermodynamics project.

System For Fast Reporting To NASA Placed in Operation

First automatic transmittal of Little Joe II progress information to NASA's Manned Spacecraft Center at Houston, Texas, was made at General Dynamics/Convair late last month via new communications equipment.

GD/Convair is the first subcontractor on the Apollo program to install a Data-Phone hook-up so that information can be transmitted by IBM transceivers over the nation-wide telephone network to the NASA center.

Using the existing IBM transceivers with the newly-installed Bell Telephone Data-Phone, tabulating cards can be transmitted directly to NASA automatically in a few minutes.

Former method of sending information — specifically PERT (Program Evaluation and Review Technique) reports which are required every other Friday on a regular basis—took several hours of preparation.

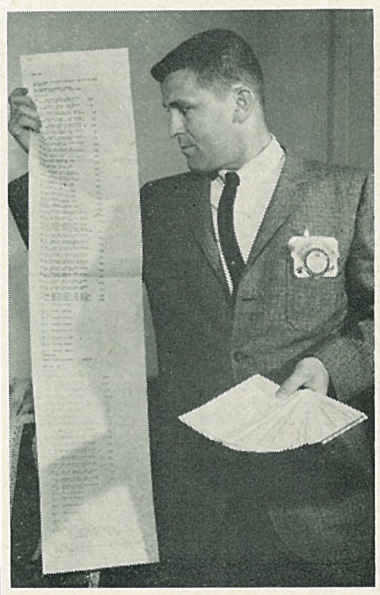
Handwritten work sheets had to be prepared from tab cards at GD/Convair. This material was then converted to punched paper tape by another manual operation and transmitted to NASA by teletype. At NASA it was necessary to convert the original data back to machineable form by manual keypunch operation.

According to Phil Shepard, master scheduler in program control who prepares PERT information on the Little Joe program, the initial run of 50 tab cards took a little over 5 minutes with duplicate cards produced instantaneously at NASA's receiving center. NASA had made a computer run within a half an hour after transmittal.

"The data transmitted represents each step in the Little Joe II program as well as expected future performance to schedules. Thus, NASA is notified as each key event takes place and is given information from which to forecast problem areas and take immediate preventive or corrective action. This information must, of necessity, be both timely and accurate," he explained.

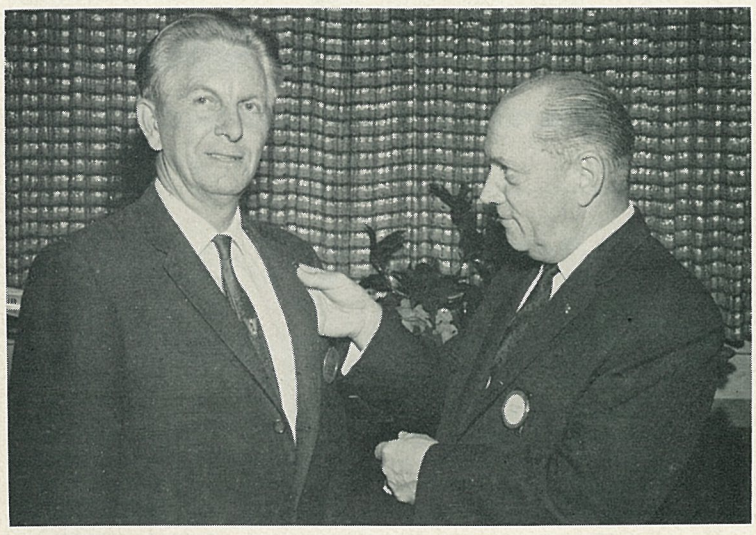
The Data-Phone subset was added to existing IBM transceiv-

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TIME CUT—Phil Shepard compares handful of tab cards with long TWX formerly required in sending same amount of information. New method cuts hours from transmittal time.

Log Book Entries



VETERAN—Willis P. Moore, Dept. 140, recently joined circle of 30-year GD/Convair veterans. Presentation of service emblem was made by President J. H. Famme.

Service Emblems

CONVAIR

Service emblems due during the period Nov. 1 through Nov. 15.

Twenty-five-year: Dept. 101, H. A. Mohr; Dept. 115, L. M. Persing; Dept. 171, M. O. Sage; Dept. 400-1, R. F. Perry, L. L. Stabenau.

Twenty-year: Dept. 6, J. G. Hamilton, A. R. Moseley, G. S. Wright; Dept. 25-1, R. W. Knelange; Dept. 31, O. W. Bell; Dept. 48, Richard Olney, C. W. Tabor; Dept. 91-0, Nora D. Keller; Dept. 102, J. E. Huke; Dept. 133, S. C. H. Perkin; Dept. 140, M. D. Hughes; Dept. 171, M. A. Crossley, J. H. Harris; Dept. 215, O. L. Riddle; Dept. 400-2, C. E. Taylor; Dept. 401-1, P. A. Lichty.

Fifteen-year: Dept. 6, J. A. Campbell; W. W. Fenton; Dept. 14-5, A. G. Tritt; Dept. 119, Jule Gooden; Dept. 133, E. F. Flukey Jr., R. J. Jordan; Dept. 140, D. R. Eads, Alejandro Hernandez; Dept. 192, Nettie F. Jonason, Phillip Poche; Dept. 218, W. R. Peterman; Dept. 401-0, C. N. Roth.

Ten-year: Dept. 6, R. F. Hollings, R. E. Johnston, H. R. Picotte; Dept. 14, H. G. Easter Jr., A. H. Hanson, L. P. McCoy; Dept. 15-0, F. J. Bogacz, R. J. Williams; Dept. 16-4, J. J. Miller; Dept. 31, N. A. Schmitt; Dept. 91-7, Myrtle T. Gardner; Dept. 115, E. M. Steppat, D. L. Young; Dept. 192-1, L. E. Thatcher; Dept. 201, Blonzy Patton; Dept. 215, A. W. Rasco; Dept. 218, C. R. Greenlee Jr.; Dept. 401, N. D. Butts, Gertrude L. Giddens, Evelyn R. Recker.

GD/ELECTRONICS

Twenty-year: Dept. 71-00, G. H. Seward.

Fifteen-year: Dept. 74-10, W. B. Lanyon.

Ten-year: Dept. 54-08, J. R. Austin; Dept. 71-00, A. P. Denny; Dept. 72-00, R. F. Narvaez Jr.

Retirements

CONVAIR

COX—Edgar A., Dept. 133. Seniority date July 26, 1946, retirement effective Oct. 23, 1962.

GILLIKIN—William, Dept. 25-1. Seniority date Aug. 2, 1950, retirement effective Oct. 19. 1962.

NOAKES—E. H., Dept. 129. Seniority date Nov. 10, 1950, retirement effective Oct. 31, 1962.

WEBBER—Catherine M., Dept. 3-5. Seniority date June 23, 1958, retirement effective Oct. 26, 1962.

Personals

CONVAIR

My sincere thanks and appreciation to our friends for their expressions of sympathy, and for the beautiful flowers sent at the death of my husband, Tony. Your kindness and thoughtfulness will always be remembered.

Mary Rosko.

* * *

ADVANCED PRODUCTS

The kindness and sympathy expressed by friends of my husband, Theodore Holland, is more deeply appreciated than any word of thanks can ever express.

Mrs. Theodore Holland.

Rider-Driver

CONVAIR

RIDE WANTED — 7 a.m.-3:30 p.m. from Santee area to Plant 1. Dallas M. Jones, home phone 444-3588 or plant ext. 1840.

RIDE WANTED — 8 a.m.-4:45 p.m. from Main St. and Jamacha Rd., El Cajon to Plant 1. Arselle Isbell, home phone 442-1915 or plant ext. 1251.

RIDE OR RIDER WANTED—7 a.m.-3:30 p.m. from Lake Murray area to Plant 1. Joe Lisalda, plant ext. 2606.

New Chapter Votes GD Men

Election of first permanent officers of the new San Diego Chapter of the National Society for Programmed Instruction Oct. 25 saw three General Dynamics men chosen for executive posts.

J. D. Meacham of GD/Convair is vice chairman; Dr. H. L. Clower, GD/Astronautics, secretary; and Marvin Taylor, also of GD/Astro, treasurer. Heading the chapter as chairman is I. D. Dodge, San Diego City College instructor.

Officers will be seated at the first annual installation dinner Nov. 29. Members and their spouses will be invited to inspect a display of programming material, including teaching machines, programs, books, and other programming instruction aids.

A regular schedule of monthly meetings has been set up for the last Thursday evening of each month in GD/Convair executive dining room.

Material Services Duties Realigned Within GD/Convair

Realignment of functions within GD/Convair material and production services was established, effective Oct. 29, in a continuing drive to improve efficiency and task performance.

M. S. Stepich, manager of manufacturing control, will be responsible for engineering and project coordination; scheduling, shop load, spares planning and release and blueprint dispatch; expedite and shortage control; transportation.

Responsibilities of G. W. Zahrte, manager of procurement, include purchasing, subcontract administration, price analysis, material control, small business, vendor research and evaluation, volume purchase agreement, material procedures and audit.

F. R. Field, chief of stores and traffic, will be in charge of shipping and receiving, line stores, Rose Canyon stores, material reclamation. J. L. Richman, chief of material costs and budgets, will oversee material services, costs and budgets, vendor terminations.

System For Fast Reporting To NASA Placed in Operation

(Continued from Page 1)

er equipment in service parts department. The transceivers themselves have been in use by service parts for some time to send information on commercial spares between the Rose Canyon stockroom and the Plant 1 office area. Until now, transmission was limited to these two locations.

"By adding the Data-Phone digital subset, various types of data processing equipment can 'talk' to each other over the public telephone network," pointed out R. F. Shane of systems and procedures who was responsible for coordinating the new installation.

"The system is based on the conventional dial-up principle, eliminating need for expensive private direct lines which would normally be leased on a 24-hour basis regardless of use. With Data-Phone, the sender is charged only for actual time used at regular long-distance rates. And, if the sender is a subscriber to WATS (Wide Area Telephone Service) lines, as GD/Convair is, long-distance transmission can be accomplished at no additional cost."

The equipment, located on the Bldg. 4 mezz, is operated under responsibility of J. W. Ensign, service parts supervisor.



INSTANT DATA—Jamie Travers, GD/Convair transceiver operator, uses new Data-Phone to make contact with NASA's Houston center before first automatic transmittal of Little Joe II tab cards. Watching first run are (from left) J. B. Hurt, Little Joe program manager; R. F. Shane of systems and procedures; Phil Shepard of program control; J. W. Ensign, service parts supervisor.

Spacecraft Test Series Begun In GD/Convair Wind Tunnel

(Continued from Page 1)

vehicles. Until now, no facility in the country has been equipped with such flexible capabilities for checkouts of components necessary for supersonic aircraft of the future.

According to George Nicoloff, thermodynamics design specialist, who was primarily responsible for initiation of the program at GD/Convair, successful performance of the modification will allow the division to bid on follow-on test work for a variety of high-speed engine components.

"The higher the speed, the more sensitive exhaust nozzles become, with a greater risk of fuel loss. For example, at speeds of Mach 3 a one per cent loss of thrust reflects a six per cent loss in operating cost. Therefore it is imperative that we devise an accurate means of testing to determine the best configuration to provide the greatest amount of thrust with the least drag.

"Optimum design must achieve the most efficient expansion of high pressure exhaust gases from the engines through the nozzles to obtain the best fuel economy."

So far, initial tests of the wind tunnel's thrust-measuring balance have proved a high level accuracy with flow fields held to plus or minus .02 of a Mach number.

Although present tests are simulating speeds between Mach .6 and 1.2, the tunnel modification will be able to simulate Mach 5 speeds at full capability. In addition to various nozzle configurations, it will be able to handle other component shapes, such as fuselages or tail surfaces.

A removable exhaust nozzle mounting can be placed inside the support to provide exhaust nozzle air flow in three streams, each operated under different conditions for three different types of tests. Present installation also allows testing of two nozzles side by side.

The wind tunnel runs, with air flowing to the model at 20 lbs. per second and 600 pounds of pressure per square inch, last 40 seconds. During that flash of time the model pressure ratio (pressure inside the nozzle in relation to pressure in the tunnel) is set to five separate pressure ratios to match different amounts of thrust required by an engine during various operating conditions—takeoff, climb, cruise, descent, landing. Ratios are automatically set by the Minneapolis-Honeywell programmer in the control room.

Seven different types of General Electric Co. exhaust nozzles will be undergoing testing in first actual use of the new wind tunnel modification. On-the-spot observers from General Electric are George Raybone, Walter Fasching, Bob Christiansen, all of the company's Exhaust Nozzle Aero-Thermo Unit of the Large Jet Engine Department, Evendale, Ohio. R. P. Taylor, former head of the unit, was at the San Diego facility early last month to check progress of final installation. Taylor was instrumental in bringing this type of testing to actuality to fill General Electric's need for such a test facility.

Training Time Cut Sharply

(Continued from Page 1)

team member, said. "Also it is a most efficient means of passing on value control principles to other people not yet in the training."

W. D. Lavis, factory value control coordinator and project leader, said, "End results are identical. We find that team members absorb the same knowledge in less time and can gain more actual experience in workshop projects."

The programmed instruction books break value control training into five stages, "Orientation," "Identification and Information," "Speculation," "Analysis and Selection," and "Presentation."

Formal presentation of team reports on last day of the seminar also has been altered to include a question and answer session directed from departments involved in the projects. Decision can be made, without delay, on implementation of team recommendations, Williams explained.

Projects, team members, department numbers, project leaders in value control seminar No. 9 were:

No. 1, Ground Support Equipment—Sling: Ronald Leland (6), G. W. Stockdale (35-0), H. M. Woodard (20), Don Maxion (6), K. O. All (16-1). Project leader, Bruce Graham.

No. 2, GSE—Pull Tool: T. C. Berardini (123), Carl Bieberdorf (6), J. E. Campanella (48-01), R. J. Connell (400), R. H. Hurd (6). Project leader, Bruce Graham.

No. 3, Vendor Tooling List: R. F. Briden (34), B. E. Lee (29), K. R. Lemley (6), E. L. Williams (171), E. K. Park (91-0). Project leader, W. G. Martin.

No. 4, Operations Control Report: D. L. Cook (133), G. N. Menas (28), K. K. Verseckes (91-1), F. E. Westphal (23), J. J. Zyirek (140). Project leader, W. D. Lavis.

NEW TECHNICAL SOCIETY FORMING

General Dynamics people active in information display are invited to join a new technical society recently organized to enhance all aspects of the field and its related arts and sciences.

Membership is open now in the Society of Information Displays to any person who has been active in the field for at least one year, or who has contributed by invention or literature to the field.

An organization meeting was held late in September at UCLA with a temporary steering committee elected to complete a constitution, conduct a membership drive, and incorporate the Society.

Further information is available from R. E. Turnage Jr., GD/Electronics chief of electronic design, CY-8-8331, ext. 5, or P. O. Wilson, GD/E, CY-8-8331, ext. 109, both located at the San Diego Hancock St. facility.

GD/E Consolidates Office Functions

Last in a series of moves to consolidate all GD/Electronics Plant 1 office functions took place late last month when 19 people were relocated from Bldg. 4 mezz to second floor of Bldg. 51.

Involved in the final location change were Kent Sinclair, manager of quality assurance; John W. Barrett, manager of inspection; K. W. Strowig, manager of product test; and A. S. Freedman, manager of design assurance, and their groups. Extension numbers remain the same.

General Dynamics NEWS

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* * *

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BRAINPICKING—GD/Convair men in 9th value control seminar toss out ideas for magazine rack substitutes during "brainstorming" session conducted by W. G. Martin, tooling value coordinator, as W. D. Lavis, factory coordinator, writes suggestions on blackboard.

Radar Can't Spot B-58 Without Plane's Help

Test engineers are hanging a space-age electronic "cowbell" on the B-58 Hustler to make sure they can find it during simulated bomb runs over the Kirtland AFB range.

Radar operators found it so difficult to see the Hustler on their ground-station screens that GD/Fort Worth was forced to install a special tell-tale radar beacon on the B-58 to make detection easier for the radar operators.

W. T. Abbott made this significant sidelight public in a talk for the regional conference of the Aviation-Space Writers Association last week in Albuquerque. Abbott is base manager for GD/Fort Worth at Air Force Special Weapons Center, Kirtland AFB, Albuquerque, N. M.

To summarize results of an extensive five-year B-58 bomb test program, Abbott spoke on "Mating the B-58 Supersonic Bomber to Nuclear Weapons."

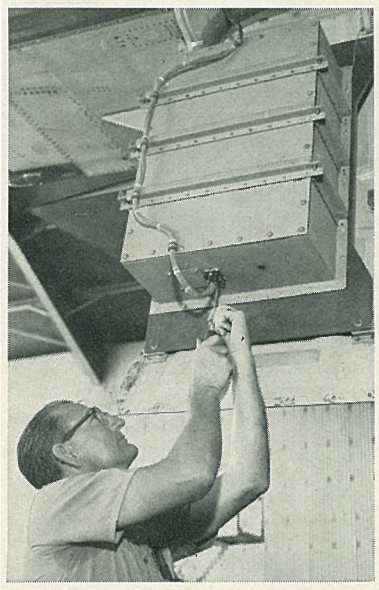
Abbott explained to the aviation-space writers that need for the B-58's electronic cowbell became evident early in the bomb-test program.

"Our radar operators—among the best in the nation and using the best equipment in existence—knew to the second when the B-58 would make its run. They knew its course. And they knew its altitude. But they found it virtually impossible to spot and track the B-58—except by accident," said Abbott.

"The almost indiscernible image the B-58 makes on ground radar is caused by the altitude from which the B-58 can bomb accurately (over 60,000 feet), and the speed of the B-58 (more than Mach 2)."

Once ground radar stations got an assist from B-58 crews intentionally signaling their position and course, however, the radar units found that the Hustler was scoring an impressive number of simulated drops "right in the pickle barrel," Abbott said.

"This B-58 high-altitude bombing is something like firing a rifle at a car's tail-light a mile away—while riding in a car traveling 100 miles an hour—and putting out the tail-light," Abbott added. "But the B-58's bombing-navigation system does exactly that—and more."



FIX—W. E. Jones, Dept. 64, installs "cowbell," which makes Hustler easier to detect on ground radar screens during simulated bomb drops over Kirtland AFB.

GD/Convair Man's Article on Flight Training Published

An article by P. H. Selby, GD/Convair flight training supervisor, on "Programming Auto-Instructional Training Materials for Flight Crews," appeared in the October issue of the Journal of the American Society of Training Directors.

The article describes the value of programmed learning-techniques for flight crews and the evolution and preliminary results of programmed instruction application specifically for jet transport flight instrument training.

Selby has been responsible for compilation of instruction for pilots on the Kollsman Integrated Flight Instrument System (KIFIS), in programmed format.

Test results of the second revised edition, printed in June, show that average time required to complete the program is approximately 42 per cent less than that needed for lecture presentation of the same subject matter. Final grade average of 92 per cent remained constant for both conventional method and programmed instruction.

"However, most encouraging factor is the interest and enthusiasm displayed by pilots for this new method of learning," remarked Selby. "They find it stimulating and rewarding."

Garrison Elected Section Secretary

J. W. "Jack" Garrison, chief safety engineer at General Dynamics/Astronautics, has been named secretary of the Aerospace Section, National Safety Council.

As secretary, Garrison will also serve on the section's executive committee for the coming year.

Last year Garrison served as membership chairman for this group.

He was among delegates attending the National Safety Congress last week in Chicago.

Val Dez Appointed Statistics Chairman

M. C. Val Dez, GD/Convair senior safety engineer, has been named statistics and contest chairman in the Aerospace Section of the National Safety Council, according to an announcement made at the Chicago executive committee meeting late last month.

During the last 10 years Val Dez has held several other executive committee posts.

SWISSAIR NAMES NEW TECH REP

Harry G. Liljeblad has been named Swissair's technical representative on the West Coast, with headquarters at General Dynamics/Convair, upon the recent resignation of H. P. Schulthess.

He had served as assistant representative during the year-and-a-half Swissair has maintained a customer representative's office at San Diego. Schulthess, who was responsible for coordination throughout development of Swissair's version of the Convair 990, is joining an American firm and plans to remain in the United States.

In other shifts within the Swissair office, Willi Kuschernsohn has been transferred from the airline's Zurich headquarters to assist Liljeblad.

Williams to Chair EIA Sub-Committee

H. P. Williams, value control manager at General Dynamics/Convair, received word late last month that he has been named chairman of the sub-committee "Mathematical Models for Design Evaluation" of the Electronic Industries Association.

Appointment was made by R. Gillespie of Sylvania Electronic Systems, who heads Measurements and Standards committee of the national organization.

Material Research Chief Is Speaker

Abe Hurlich, chief of GD/Astronautics material research group (Dept. 592-1), presented two papers at World Metal Show, New York City, late last month.

They were "Considerations in Choosing a Research Project," and the keynote address of a symposium on "Role of Non-Ferrous Metals in Aerospace Applications."

URBAN LEAGUE SETS NOV. 19 FOR 'EQUAL OPPORTUNITY' DAY

"Equal Opportunity Day" will be observed Nov. 19 in San Diego at a luncheon meeting in the U. S. Grant Hotel with Dr. Herbert York, Chancellor of the University of California at San Diego as speaker. The annual observance is sponsored by the San Diego Urban League.

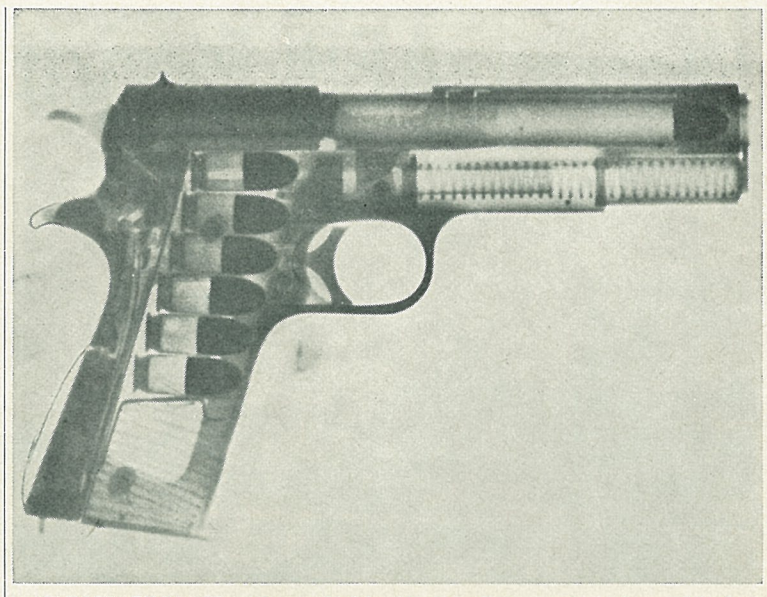
Representing General Dynamics will be R. H. Biron, vice president; D. C. Wilkens Jr., GD/Convair director of industrial relations; and M. V. Wisdom, GD/Astronautics director of industrial relations. All three have been longtime Urban League supporters.

"Equal Opportunity Day" is designed "to focus attention on positive efforts to insure fair and equal treatment of all citizens, regardless of race, color, religion or national origin, and to remind Americans that the greatness of our country rests upon the principle of equal opportunity for all."

Cafeterias Schedule Thanksgiving Dinner

A special Thanksgiving dinner will be on the menu at all GD/Convair and GD/Astro cafeterias Tuesday (Nov. 20).

For the flat rate of $1, diners will get roast turkey and dressing, whipped potatoes, giblet gravy, buttered peas, tossed green salad and dressing, cranberries, roll and butter, pie, beverage.



BULLET STOPPER—Remarkable X-ray photo, taken from 12 feet distance, "stops" .45 caliber bullet as it is about to leave barrel. GD/Fort Worth will use flash X-ray system as radiation source in studies of nuclear effects.

High Speed Flash X-Ray System Will Be Used in Radiation Study

What transient effects will an atomic explosion have on missiles, airplanes, and other sophisticated weaponry?

GD/Fort Worth engineers soon will be finding the answers with a new flash X-ray system being installed in a "portable" concrete building as part of the division's Nuclear Aerospace Research Facility.

"This new system definitely gives GD/FW a new experimental capability in transient nuclear effects, enabling us to take on new assignments in this rapidly developing area," said H. R. Dvorak, GD/FW chief of nuclear research and development.

"We know that an atomic explosion creates high intensity gamma rays with damaging effects far beyond the blast," said William L. Fink, senior nuclear engineer.

"These gamma rays change the electrical characteristics of electronic systems they come in contact with, particularly sensitive parts such as transistors, capacitors, and resistors."

GD/FW nuclear engineers now have the capability of discovering the nature and extent of gamma-ray damage.

Radiation source will be a flash X-ray system—one of the few in operation in this country—which delivers single pulses of high-energy x-radiation.

Radiation intensities can be created as high as one-hundred million Roentgens per second, while the pulse rate is delivered in about one-tenth millionth of a second!

Peak radiation energy is three-fourths of a million electron volts.

"Besides the studies of transient radiation effects in electronic systems, the device can be used to perform biological radiation rate studies and high-speed radiography work," Fink said.

"The device is ideal for X-ray photography of high-speed moving parts and should have many useful applications at GD/FW in addition to radiation effects uses."

The new facility, a pre-fabricated concrete shielding wall designed by GD/FW plant engineering, is being installed in the Nuclear Manufacturing Building (Bldg. 125) of Nuclear Area 2.

Interlocking wall sections are assembled, and precast concrete ceiling sections are fitted into place. Doors are sandwich construction of plywood and lead sheeting.

"Nuclear shielding for this facility is simplified," Fink said, "since no radioactivity or nuclear contamination is possible from an X-ray source.

"This allows use of lap joints on prefabricated sections rather than solid concrete walls. With this type of construction, the facility can be moved, expanded, or modified at modest expense and in minimum time."

Eight Dynamics Clubs Registered at Buffalo

Two major trophies were taken home by members of the GD/Fort Worth Management Club from the National Convention of the National Management Association.

For the fourth year in a row that club was selected as the No. 1 company Management Club in the nation. The club also received a trophy for providing its members with the greatest opportunity to advance in management skills and for doing the most to improve management as a profession. The latter trophy has been sponsored by GD/Fort Worth since 1953, but this is the first year the club has won its own trophy.

Club President Miles R. Rogers received the awards from NMA President L. Fred Magruder during the convention in Buffalo Oct. 24-26.

Robert Poole, chief of materiel at GD/Astronautics at Cape Canaveral, Fla., was selected for the second highest office in NMA, being elected first vice president.

Members of eight clubs from within General Dynamics Corporation, including the new one at GD/Electronics-Rochester, were present to witness presentation of the trophies. Registering were:

GD/Astro, Cape Canaveral—Bob Poole, Bob Flanagan.

GD/Astro, San Diego—Jerry Janda, Ed Russell, Ralph Bauman, Tom McCubbin, Bob Craig, Al Gillette.

GD/Astro, Edwards AFB—L. M. Barnes.

GD/Astro, Vandenberg AFB—Augie Daddi.

GD/Convair—Al Fink, Harry Lund, Larry Sweeney, Paul Hamm, Ralph Montgomery, Joe Freeman.

GD/Electronics, Rochester—Howard Mills, Ted Peck, Dave Verdery, Paul Neuman, Bruce Fyfe.

GD/Fort Worth—Miles Rogers, John Watson, Larry Armstrong, John Keller, Bryant Justice, Bill Parks, George Boesch, Rand Creasy.

GD/Pomona—Roy Williams, Tom Moffett, Frank Mentlick.

The men from these divisions gathered a half day early to visit the old Consolidated Aircraft plant. This plant was established in Buffalo in 1924 and was the forerunner of several divisions of General Dynamics. The building is now occupied by the U. S. Government's General Services Administration.



STEP INTO PAST—Members of several General Dynamics Management Clubs inspect old Consolidated Aircraft plant in Buffalo. Plant was forerunner of several divisions of corporation. October 24 visit was arranged as prelude to program at NMA convention.

Material Handling Report Commended

B. J. Handwerker, GD/Convair materials handling engineer, has been commended for his materials handling presentation early this summer at the Navy's Bureau of Supplies and Accounts Workshop Seminar held at the Naval Supply Depot Center, San Diego.

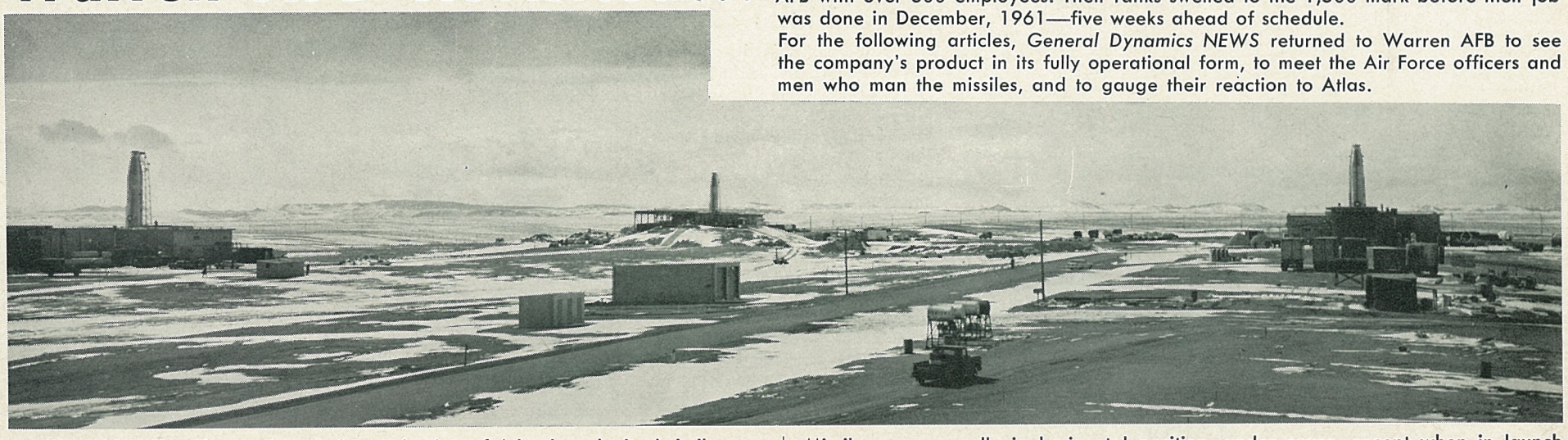
R. E. Beach, president of the National Security Industrial Association, Washington, D. C., in a letter to GD/Convair President J. H. Famme, said that the paper on industry's most current materials handling practices and procedures was "enthusiastically received by military and civilian supervisors and technicians."

Warren AFB Revisited...

In early 1959 General Dynamics/Astronautics employees poured into Cheyenne, Wyo., to begin activation of SAC's first purely operational Atlas ICBM base.

By the end of the first year, a division-in-miniature had been created at Warren AFB with over 600 employees. Their ranks swelled to the 1,500 mark before their job was done in December, 1961—five weeks ahead of schedule.

For the following articles, *General Dynamics NEWS* returned to Warren AFB to see the company's product in its fully operational form, to meet the Air Force officers and men who man the missiles, and to gauge their reaction to Atlas.



BUSINESS END—Photo taken during activation of Atlas launch site (missiles are erect but lack warheads) shows lonely prairie country where they stand guard. Missiles are normally in horizontal position, under cover, except when in launch drill. Sites that circle Warren AFB are from 23 to 90 miles distant.

Atlas Sites Ring Cheyenne

"A great moral force is a bayonet and a web belt full of cartridges," wrote Col. John S. Poland, commanding the 17th Infantry at the then-Fort D. A. Russell in 1890.

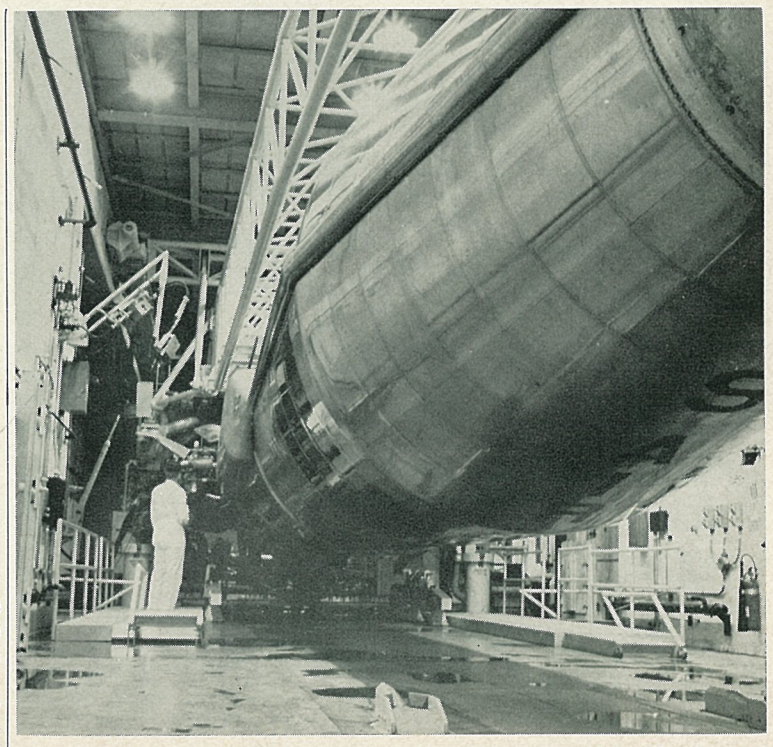
Today, some 70 years later, Ft. Russell has become Warren AFB and missiles have replaced bayonets, but Poland's words still ring true.

Over the years, Cheyenne, Wyo., once near neighbor of Ft. Russell, has expanded until its northern limits now brush the southern boundary of renamed F. E. Warren AFB.

Located in the extreme southeast corner of the state, city and base are a scant 10 miles from Colorado, and roughly 40 miles from the Nebraska line.

Around Warren AFB at distances from 23 to over 90 miles are flung the Atlas launch sites known collectively as Warren I, II, and III. Sites of Warren I and II, although differing slightly in configuration, form a circle of roughly 25-mile radius about the main base.

Warren III is composed of all-inertial-guidance Atlas "E" missiles stored in semi-hard horizontal launchers. Its sites are spotted in an irregular semi-circle, still further from Cheyenne, with some spilling over into Colorado and Nebraska.



AT REST—Massive tank of operational Atlas ICBM in "horizontal launcher" is inspected by Strategic Air Command missileman. On command, heavy roof rolls aside and missile swings erect, ready for launching in minutes.

'We Are Ready Now. We've Been Ready For Two Years,' Says Launch CO

BY WILLARD HARWOOD
General Dynamics NEWS Staff

WARREN AFB — Within a heavily guarded enclosure at the eastern base of the Rockies, a high-pitched electronic tone whines over a sprinkling of squat concrete buildings.

In seconds, technicians drop into seats before sleek gray consoles in one of the buildings. Closed circuit television screens flicker to life, and lights flash green on status boards along the walls.

At a raised console behind the technicians, a loaded .45 automatic at his hip, is their "boss." Calmly he speaks into the telephone headset linking him with his men.

From a loud speaker a voice recites a jumble of letters in military phonetic alphabet. A junior officer works furiously at a code book to learn their meaining.

As it has on so many other days like this, a question hovers in the room: Are they about to answer the nuclear challenge of an enemy a continent away? Or will the coded message signal another of the rigorous training sessions with which they have become so familiar?

These men in their white coveralls, some wearing blue baseball caps, are members of Strategic Air Command's 389th Strategic Missile Wing, Warren AFB, Wyoming. For over two years this wing, now armed with 24 Atlas ICBMs, has stood at the ready at SAC's first purely operational missile base.

For some three years previous, nearly 1,500 General Dynamics/Astronautics employees and more than 2,000 subcontractor personnel labored at Warren AFB to help create the massive deterrent force now accumulated here.

The final cluster of Atlas installations (Warren III) became operational Dec. 12, 1961. In one of the Launch Operations Buildings (LOB) at pioneering Warren I, where the scene described above takes place daily, men of the 564th Strategic Missile Squadron have been on 'round-the-clock duty since Aug. 30, 1960.

Theirs are neither the newest nor most impressive facilities in the Air Force arsenal. (Warren I has six radio guidance Atlas "D" missiles in "soft" above-ground launchers.)

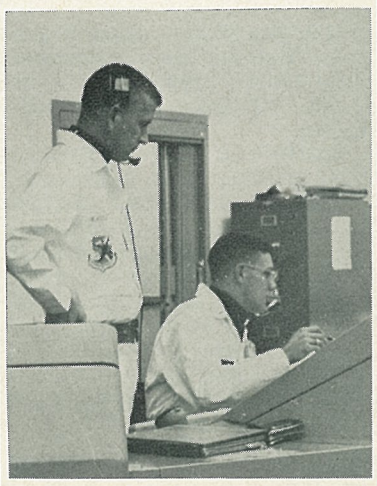
But two years' experience with their "birds" has given the men of the 564th an unshakable confidence in their weapon. Many have taken part in an actual launching at Vandenberg AFB, Calif.

Major Francis E. Henderson, commanding one of five SAC combat crews who man Site "A" on a relay basis, speaks for them all: "There is no doubt that Atlas could effectively perform its mission."

Henderson has a crew of 12 airmen, plus a junior officer who is his deputy crew commander.

"We are ready now," he elaborated. "We have been ready for two years. The new missiles—Atlas "F," Titan and Minuteman — are wonderful. But we are ready now."

Each launch crew stands 24-hour duty days at the site, averaging 72 hours a week. Between site tours and off-duty time are sandwiched training sessions and 24-hour stand-by periods. Also supporting the sites are men of the 389th Missile Maintenance Squadron who work a more usual five-day week.



IN CHARGE — Major F. E. Henderson, combat crew commander, watches intently as deputy crew commander carries out alert procedures.

For a launch crew, a duty day starts at 7 a.m. with a briefing at squadron headquarters. Then comes a bus ride from Warren AFB to the site where they remain on station until relieved the following day.

Depending on site location, the bus trip may cover from 25 to 90 miles one way. And, as a hedge against temporary isolation as result of blizzards which sometimes bluster across the plains without warning, buses are stocked in winter months with provisions and blankets.

At the site, working hours follow a pattern of study, maintenance, on-the-job training — and waiting for the alert which will send them to battle stations.

The alert may catch them while relieving the previous day's crew in the morning. Or while they are enjoying a steak in the guidance building mess hall nearby (a waiting personnel carrier speeds them back to their stations).

Or it may come after taps to jerk them awake in the small LOB dormitory adjacent to the control center.

When the alarm sounds, the guidance building, as well as the LOB, stirs with action. An officer and three airmen—the guidance crew—take their places as the guidance officer prepares the highly classified target program for his computers.

In each of three launch service buildings controlled by each LOB is an Atlas, ready to swing erect as the building's heavy roof rolls clear. If the "Go Code" comes, the missile is ready to hurtle over 6,000 miles at some 16,000 mph.

Major Henderson's respect for his crew runs high. "These men are professionals and they know what's expected of them," he said.

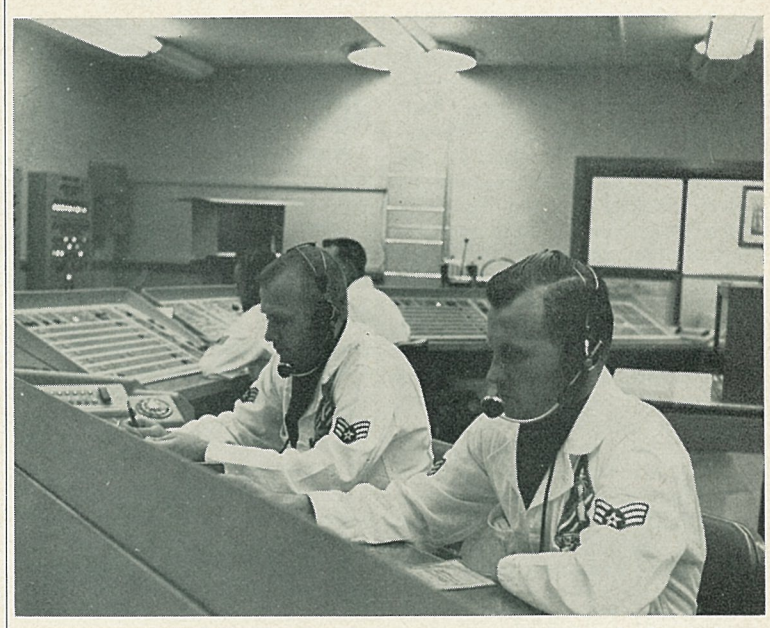
A composite picture of these "pros" shows a veteran of 8 to 10 years' Air Force service; in his early 30s; married.

He is a volunteer: a missile specialist who more likely than not can pinch-hit for nearly any other member of his crew without missing a cue. He is a high school graduate, and may have a few college courses behind him. He will have attended at least one, and probably more, Air Force schools.

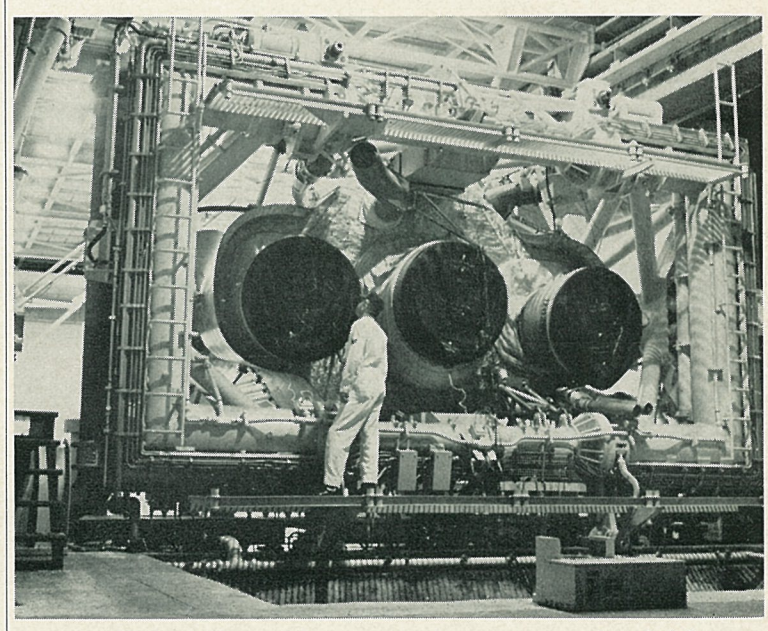
He likes his work and is proud of it. As the major explained, "We have an operational attitude."

Underlying the work and devotion of the men of the 564th, like their counterparts at Warren II and III (565th and 566th SMS, respectively) is a strange contradiction:

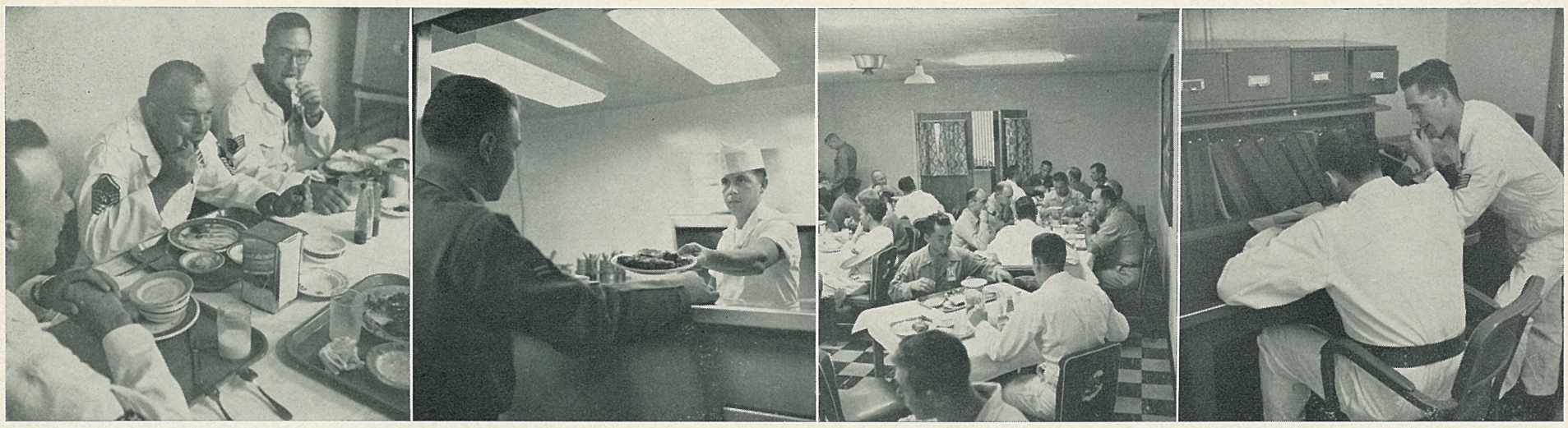
Their very skill and preparedness could make it unlikely that any missile will ever be fired from this plain at the foot of the Rockies.



TENSE MOMENT—Intent on instrument consoles before them, SAC combat crewmen run through daily surprise alert, not knowing until procedures are well under way whether preparations will end as drill or operational launch.



INSPECTION—Trio of booster engines on operational Atlas are checked by SAC crewman. Intensive training, maintenance and study keep crews needle-sharp and alert.



LUNCH BREAK—Duty day mealtimes permit crew to leave launch control stations briefly. Officers, however, must remain constantly on posts; dine on "foil packs" (like TV dinners). Guidance building mess hall serves 200 daily, frequently more when steak is on menu! At right is typical moment in LOB as crewmen ponder correspondence course. Training, on job, in classrooms or by correspondence, offers airmen self-improvement and opportunity for professional advancement.



SHADED AVENUE—Rows of cottonwoods front red brick barracks buildings at Warren AFB. White-trimmed buildings rimming broad drill field opposite give campus-like atmosphere to Wyoming base.

Hard Core of Mature Officers Holds Key Atlas Commands

Warren AFB is an Air Force base without an airfield, an historic cavalry post whose officers and men have traded air-crew wings for the rectangular badges of Strategic Air Command missilemen.

Atlas, vanguard of the new generation of airpower instruments, is tended by men of remarkable maturity. Except superficially, its officers bear little resemblance to the dare-devils who flew with Jimmy Doolittle, or challenged Messerschmidts over Hamburg.

They remember the "old days" of less than two decades ago, but have moved on to keep pace with changing missions of their service.

Brig. Gen. W. S. Rader, commanding the 13th Air Division here, will recall over 18 hours in a life jacket awaiting rescue from the Pacific after a heavily opposed B-17 mission.

The knowledgeable will note the Distinguished Flying Cross with cluster among decorations of both Col. George T. Chadwell, 389th Strategic Missile Wing commander, and Col. E. B. Daily, base commander.

Among officers commanding Atlas missile sites here are many who earned command wings in B-47s or B-52s.

Former pilot, Major Francis Henderson, "head man" of a crew at Atlas Site "A," left an intelligence assignment at SAC Headquarters to volunteer for missile duty, motivated, he says, by the added command challenge in the new field.

Junior officers, serving apprenticeships as deputy crew commanders or guidance officers, represent a "new generation" in the Air Force. They come to their jobs, heady with science and engineering degrees from West Point and Annapolis, M.I.T. and Stanford.

"They set quite a pace for us in the classroom," said Henderson.

Typical of these "pace setters" is guidance officer, J. R. Wade.

Chicago-born and a West Point grad, this first lieutenant contrasts his seniors' attitudes by citing opportunity for specialization as the Air Force's strongest lure.

And the sergeants and airmen behind the Atlas are no "Johnnys-come-lately." Re-enlistments are "old hat" with many having backgrounds in manned aircraft.

They notice a difference.

"This is not like aircraft where you can watch a plane lift off on a mission and know you've done a good job," said one eight-year veteran.

The substitute reward is the occasional launch of an Atlas from Vandenberg AFB to climax an intensive, periodic training visit there. Add to this constant self-reassurance through study—correspondence courses and on-the-job training. (One senior master sergeant ran out of fingers while counting his Air Force schools.)

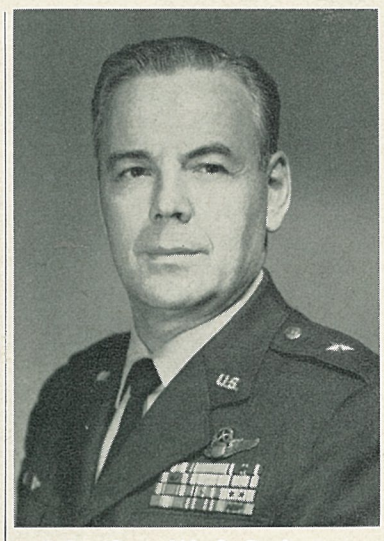
Other compensations of missile duty are many.

Family men (and Maj. Henderson's 14-man team includes only two bachelors) become participating members of the Cheyenne community with an assured four years without reassignment.

There is ample leave with the annual 30 days split into two periods of 10 and 20 days respectively. (Dates are drawn from a hat, since the whole crew takes leave at once.)

Breaches of discipline, often born of changeless routine and boredom in other service situations, are almost nonexistent here.

"We have had none with this crew," said Major Henderson, and then backed off a bit. "Well, one of the boys got a traffic ticket the other day."



Brig. Gen. W. S. Rader, commander, 13th Air Division.



Col. G. T. Chadwell, left, 389th Strategic Missile Wing commander, and Col. E. B. Daily, Warren AFB commander.

Security Serious Matter at Sites

"NO TRESPASSING — SURVIVORS WILL BE PROSECUTED."

With his second reading of this sign posted, half-humorously, in the gate house at one of several Atlas ICBM launch sites ringing Warren AFB, the visitor gets the idea.

Here, as at other Strategic Air Command facilities, security is serious business.

The concept was impressed upon him before the visitor entered the gate house. He has good reason to be there, and an appropriate security clearance — or he wouldn't have come this far.

For at the sites, the welcome is far different than the greeting of the Air Policeman, smart in his blue uniform, who meets visitors at Warren AFB's main gate.

Instead of tree-lined streets and neat rows of colonnaded brick buildings for a backdrop, the site entrance is barred by a 20-foot gate topped with barbed wire.

His "host" is dressed in olive-drab fatigues, a yellow scarf at his throat, and business-like automatic weighting his khaki web belt. The visitor has met a member of the elite Combat Defense Force.

SAC's 389th Combat Defense Squadron is charged with security at Warren AFB. For the most part, CDF troops spend their on-duty hours within or near fenced enclosures of areas housing missiles, their warheads, or other "high sensitivity" equipment.

Carbine-armed foot patrols prowl constantly through the confines of Atlas launch sites; organized Mobile Strike Teams (MST) cruise site perimeters; while a Roving MST in constant radio contact with its headquarters is likely to appear anywhere at any time.

These are the men on whom the security-conscious officers and airmen of Warren AFB may call at any time they suspect the massive deterrent force they control has been violated.

Every airman is a one-man security squad, and, in a restricted area, our visitor may be stopped a dozen times in a walk of as many yards, should the reason for his presence be questioned.

If he doesn't have the "right" answers, he will be detained (if his answers are close) until his credentials have been inspected by a CDF unit—which appears out of nowhere.

Should his challenger interpret his presence as a threat, the code words "Seven High" will be passed.

This phrase signals a potential emergency, and crack CDF troops, weapons at the ready, engulf the area.

Reason for the alert may be a visitor without proper credentials. It may be a few wires of a missile assembly disconnected or out of place. No reason is too small, no possibility too remote.

At one site an officer "pressed the button" when he noticed a bottle filled with an unidentified liquid where no bottle should be: on the floor where an opening door would upset it.

Within moments after "Seven High" was sounded, CDF troops ringed the building. A crew removed the suspect item.

There were only sighs of relief, no embarrassment, when the liquid turned out to be water. It might have been nitroglycerine.

Warren AFB's Combat Defense Force intends to see that all their calls are "false alarms."

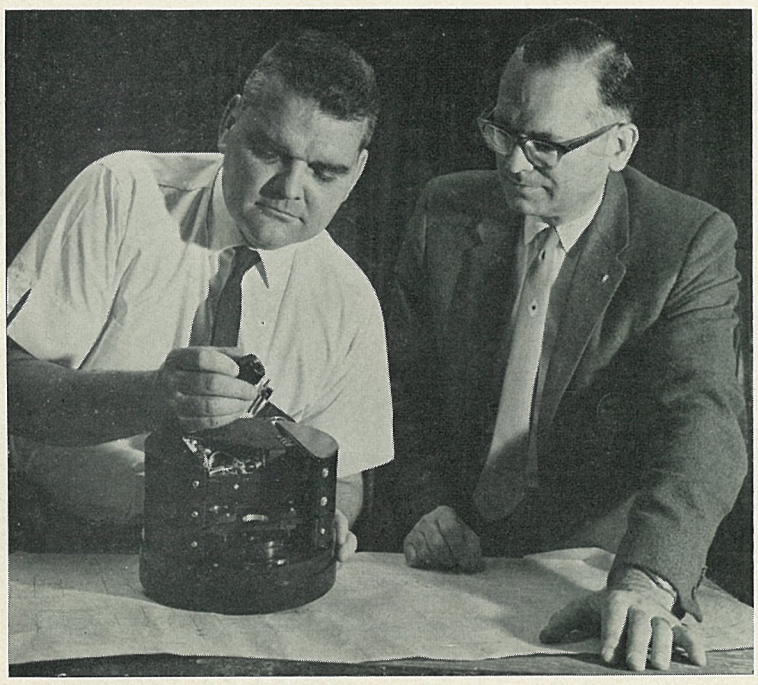




RELICS—Though Warren AFB's horse population is nothing like it was in old cavalry post's heyday, veterinarian is still in business. Horse's head marks his office door. At right is forgotten grave and broken headstone, symbolic of lonely countryside where Atlas missiles wait.



PRESENT ARMS—Rigid inspections of Combat Defense Force guards are held four times daily and keep crack security unit in top form. Here Lt. Col. W. E. Steger, deputy base commander, questions CDF airman. After dismissal, troops disperse to posts.



READY FOR DELIVERY—George Carmichael, GD/Astro senior electronics engineer, and Romuald Anthony, research group engineer, examine first radiometer unit completed by infrared/optics technology group for plume radiation measurement.

New Radiometer to Measure Radiation From Clouds, Gases

First three-channel radiometer, designed and fabricated in GD/Astronautics infrared/optics technology group, based at Plant 1, has just been turned over to Astro's space science laboratory as one of several packages for measurement of "plume radiation."

Contract calls for development of six such radiometers to be delivered before the end of the year for use in the FLIP (Flight Infrared Probe) program.

According to Romuald Anthony, Dept. 500 research group engineer in charge of infrared/optics activities, the radiometers are designed for measurement of radiation emitted from such sources as clouds, earth's atmosphere, rocket plume—gases ejected from missiles in flight.

The scientific instrumentation package, composed of optical components such as infrared lenses, ultraviolet lenses and detectors, and compact electronics, is developed for use under extreme environmental conditions associated with high rocket acceleration and space environments.

The first unit is, in effect, a laboratory mockup, prototype, and deliverable unit, all in first attempt. Its completion culminates several months of concentrated effort within the infrared/optics technology group since predesign was begun in June under direction of Robert Condon, senior research engineer.

Task leader for the project is George Carmichael, senior electronics engineer. The infrared/optics group is a section of the Astro applied research laboratory under V. A. Babits, manager.

"This project is but a part of our continuing and expanding technological efforts to provide advanced instrumentation and sensors for payloads in rocket probes for scientific and military purposes," said Anthony. "This field is only a slight departure from our research in the infrared atmospheric geophysics probe area, with first flight completed last year."

Other developments chalked up by the infrared/optics group over the last two-and-a-half years, besides the current radiometer program, include the Schlieren optical camera used at Ames Research Center, Calif.; two lead sulphide radiometers for Tullahoma Facilities, Tenn.; three vertical probe horizon scanning radiometers, two still to be fired early next year; an advanced infrared surveillance sensor for a satellite weapon system. Total contract effort amounts, so far, to over $750,000.

Photos Tell Rally Route

More than 6,000 miles have been driven by members of ARA Sports Car Club in preparing for their unique Photorama Rally IV, slated for Nov. 25.

Designed for beginner and expert alike, Photorama uses photographs of intersections and road signs to guide participants over a 3½-hour, 100-mile course. Even speed changes are indicated photographically, by picturing inset speedometers in applicable photos.

Rallymaster George Lahey has announced that the course is fully paved, and the route selected for scenic attractions. It was scouted by Jim Howard and Ed Yeaton, and instructions were photographed by Jack Stevens.

First car will get under way from the ARA Area at 11:31 a.m. A half-hour rest stop en route is planned, and the finish line is at Singing Hills Country Club, El Cajon.

Lahey has emphasized that all licensed drivers are eligible to enter, whether they drive the latest in foreign cars or simply the family sedan. General Dynamics folk will receive special welcome. The rally is a San Diego Council of Sports Car Clubs open event.

Pre-entries are handled by Dale Stephens, and details on the rally are available from Lahey, ext. 2780; club president Jim McRae, ext. 4251; or ARA Commissioner Judge Penick, ext. 3162.

Entry blanks are available at ARA Headquarters, or from Ken Partain, ext. 4517.

Holloman Reunion Planned at Picnic

Former Holloman Field employees have been invited to attend a potluck picnic in ARA Recreation Area (east of General Dynamics/Astronautics) at 1 p.m., Nov. 11.

Additional information is available from J. D. Darsey, 442-7357; Art Carpenter, 442-5638; or Dwight Stone, 278-9358.

NASA Quality Control Program Subject of San Diego Society

National Aeronautics and Space Administration's quality control program will be outlined for San Diego members of the local section of American Society for Quality Control at the Nov. 12 meeting.

Howard N. Weiss, chief of quality assurance, Office of Reliability and Quality Assurance, NASA headquarters in Washington, D. C., will be guest speaker, according to P. I. Harr, director of reliability control at GD/Astronautics, in charge of arrangements.

The 6:30 p.m. dinner meeting will be at Vacation Village, Mission Bay.

General Dynamics people may obtain tickets from Omar Scarborough, ext. 663; Kent Sinclair, ext. 2212, both Plant 1; Fred Lay, ext. 2057, Plant 2; at the Astro main site from George Huff, ext. 2997; J. F. Baebler, ext. 639; J. S. Ortega, ext. 4168 .

Good Weather Greets Fall Glider Meet

Sixteen glider pilots competed in the Fall Soaring meet co-sponsored by CRA Glider Club and the Associated Glider Clubs of Southern California, Ltd., the weekend of Oct. 27-28 at Elsinore's Skylark Field.

"The weather was clear and warm, perfect for sailplane flying," said CRA Commissioner Gene Whigham. "Thermals provided altitudes of as much as 10,000 feet."

First place in the Saturday event went to George Tweed, who completed a 144-mile flight from Skylark to Ramona Bowl, Jack Rabbit Pass, and on to Brawley. He flew his own designed and built GT-1 sailplane.

James McCarrier, flying his home-built Cherokee sailplane, came in second and John Williams was third with a 107½-mile flight in a modified Schweizer 1-23.

Sterling Starr of GD/Astro was only pilot to complete Sunday's task over a triangle flight from Skylark Field to Hemet to Toro Peak and return, a distance of 119 miles. Starr flew a Schweizer 1-23F.

In second spot was Jack Green with a distance of 50 miles in a GT-1. Evan Stover, flying a Schweizer 1-23H, was third with 44½ miles.

Cy and Florence Perkins, operators of Skylark Field, hosted the Saturday evening dinner.

Linguists Plan Tijuana Tour

A luxury "South of the Border" tour is on tap for all members of the ARA-CRA-sponsored Spanish courses, held this summer, announces Jim Hardison, instructor.

The specially-arranged trip on Saturday (Nov. 17) to Tijuana will show San Diegans highlights of the Mexican city not usually seen by tourists, explained Hardison.

During the 12-hour jaunt, the former Spanish students and their friends will see such points of interest as theaters, money exchange center, post office, National Lottery, Cathedral of Guadalupe, a tortilla factory, and the exclusive residential district.

Dinner, with special entertainment, will be at the Country Club, followed by a stop at the Fronton Palace to watch jai alai. The evening will be climaxed by a visit to the Flamingo Club where a Mexico City nightclub troupe is appearing.

Entire cost of the tour, including dinner, transportation, all admission charges, is $11 each.

Buses will leave the Conference Bldg. in Balboa Park at 1 p.m. for the border where a chartered bus will be waiting to continue the sightseeing on the Mexican side.

Reservations must be made by next Monday (Nov. 12) by calling Evelyn Soule at Astro's Kearny Mesa plant, ext. 2435, or at her home phone after 6 p.m., 278-4537.

Humorous Speech Course Starting

Mt. Helix Toastmasters Club No. 126 will sponsor a three-session humorous speech training course at Lawton's Chuck Wagon, 8090 University Ave., La Mesa. First session is at 6:10 p.m. tonight (Nov. 7).

General Dynamics men in the club include President Seymour Zeenkov, Ken Cummins, Jack Fisher, Jim Johnson, Chuck Plummer and Glenn Vail. More information is available from Johnson at ext. 4573, GD/Astro main plant.

Salvage Schedule

Salvage yard schedule for the next four weeks:

GD/Convair—Nov. 10, Nov. 24.

GD/Astro—Nov. 17, Dec. 1.





HONORS—In top photo, Willard Martin (right), Dept. 31 assistant foreman, gets MacSave-it trophy from V. A. Petricola, methods supervisor, at GD/Convair Management Club meet. Below, Gene Boyd (left), GD/Convair quality control lab assistant supervisor, is tabbed Mug of Month for years spent directing activities of Management Club-sponsored Air Explorer Squadron 340. Presenting mug is W. J. Martin, director of reliability.

Charm Classes Begin Thurs.

New charm courses, open to GD/Convair and GD/Electronics women, begin this week under IRC sponsorship.

Mrs. Edith Antelline, well-known San Diego charm school director, will teach both a beginning and an advanced course. First session of the basic course is tomorrow (Nov. 8) and opening date of the advanced charm instruction is Nov. 14.

Both run for six weeks, two-hours once a week. Meeting place for both courses is Room 11 in the Conference Bldg., Balboa Park.

Cost of the basic course is $13.50 each; advanced, $19.50.

Visual poise, make-up, hair styling, figure control, business and social etiquette, voice improvement, personality development, apparel, modeling technique will be among subjects covered.

Registration may be made through Mrs. Antelline, 470 Pine Needles Drive, Del Mar, Calif.

Transport and Field Service Units Move

GD/Convair transport service and field service personnel are now located within Plant 1 on the second floor of Bldg. 5 near the engineering auditorium. They formerly occupied space on second floor of Bldg. 19.

New office location of O. W. Harper, manager of customer service, is Rooms 227-228, along the west side of the hall. L. J. Bordelon, chief of service engineering; R. E. Sommers, chief of field service; R. K. Hall, supervisor of commercial field service; W. W. Fenton, supervisor of military field service, and their personnel are located in the area across the hall.

Their plant extension numbers are unchanged.

Electronic Class Registration Open

Brush-up courses in electronics assembly for people currently employed in the field are offered in the SD City Evening College program. Information is available at the college, 1425 Russ Blvd.

Radio Hams Elect K6QXN (Louis Rush)

Election of officers for the coming club term of CRA Radio Club at the Oct. 25 meeting saw Louis Rush chosen president for a second time.

Rush (Dept. 140) carries the call letters K6QXN.

John Crenshaw of field service engineering is new vice president. His call letters are WA6MRC. Secretary is George Stanovich of Dept. 6, call letters WA6ZRX; treasurer is Frank Schneider (Dept. 133), call letters WN6BOP.

Regular meeting of the Radio Club will be tomorrow evening, Nov. 8, at the Harbor Drive headquarters at 8 p.m., reminded CRA Commissioner Jim Lack.

Two CRA Exhibitors Place in Coin Show

Two exhibitors from the CRA Coin Club won third places with their displays at the fifth annual San Diego Coinarama, sponsored by the San Diego County Inter-Club Numismatic Council last month.

Mrs. George Johnson received a trophy for her Lincoln cent entry and Al Baber, for his Mercury dime exhibit.

The two-day show held at El Cortez Hotel Oct. 20-21 drew an attendance of around 4,500 visitors, some from as far distant as Texas and Oregon. On display were collections of rare coins and bills, both foreign and domestic, and commemorative medals. Dealers offered a variety of items for sale to collectors with top price, $452, paid for an 1873 dime struck at the former U.S. mint at Carson City.

The CRA group will nominate officers at its next meeting (Nov. 15) in Convair main cafeteria, Pacific Hwy. Door prize will be a ham or turkey.

GOLFERS TO PLAY CARLTON OAKS

Around 125 GD/Convair and GD/Electronics golfers will be teeing off this Saturday and Sunday (Nov. 10-11) in CRA's monthly tourney. Commissioner Ken Wulfemeyer said that turkeys will go to first-place winners. Play will be over Carlton Oaks Country Club course.

Sports & Recreation

Hillbillies, Bums and Goblins Mingle at Riding Club Party

Hillbillies, bums, goblins, and witches mingled at CRA Riding Club's Halloween costume party Oct. 27 at Gillespie Field Clubhouse. A crowd of 42 members, including over 20 young people, enjoyed the evening of tricks or treats and dancing.

Hap and Margaret Manion, directing the event, awarded prizes to Fred and Flora Kershaw (Dept. 215) as the funniest couple. They were dressed in true hillbilly garb.

Donald Westcott (Dept. 343), disguised as a "blonde, blushing bride," took the prize for best-looking costume. Worst-looking costume winner was Roy Sims (Dept. 280), dressed as a bum. Most original were Bill and Marie Frisselle (Dept. 218), costumed as a church deacon and his lady.

Lucky winners of the Thanksgiving turkeys, given as door prizes by CRA Commissioner Charles Pogorel, were George Graham (Dept. 170), Bruce White, Frisselle, and Westcott.

All juniors received candy and apples in trick or treat events, held under direction of the club ladies. Dancing to strains of the Color Guard Combo completed the evening's entertainment.

Other weekend activities of the Riding Club saw the Color Guard winning a trophy for its appearance in the annual Spring Valley Chamber of Commerce parade Oct. 28.

The same day Tommy Thomason, club president, trailered to Escondido to win two trophies in the Escondido Valley Riders final All-Western Horse Show for the year.

He took the Open Horsemanship award on his quarter gelding, Miro Kid, and the Open Trail Horse event on his quarter mare, Cloudy Morn.

The seven-man Color Guard, headed by Luke Barbour, will journey to Brawley this Saturday (Nov. 10) to take part in the Annual Cattle Call event sponsored by the Brawley Chamber of Commerce in celebration of the return of cattle and sheep to the valley for winter grazing.

Road Runners Join Parade

CRA Road Runners spread themselves over a lot of territory during a recent weekend, taking part in two rallys and a parade.

While main part of the trailer group gathered for their first weekend outing Oct. 27-28 at CRA's new recreation area, Pine Crest, near Julian, others joined in a Pomona rally, and four families displayed the club's prize-winning float in Spring Valley's annual Community Parade.

Representing the CRA group in the parade were George Hurley Jr., club president, and family; Ed and Regina Wawrzynski, Bill Phelan and Ivar Peterson and their families.

Seventeen member trailers and four guest vehicles, totaling 64 people, enjoyed the scenic setting of the mountain Pine Crest area near Julian. The George Graham family was given a hearty welcome as new members of the club. Special guests at the Saturday evening potluck dinner were Mrs. Dick Wilkens and Mrs. James Field.

Harry and Fran Rush, Carl Scholl and family, and Lee Kunkle and family attended the Harbor District Trailer Rally in Pomona the same weekend.

Plans for a club turnout to the coming Hemet Rally will be discussed at the next judicial board meeting Nov. 15 at 7 p.m. in Gillespie Field Clubhouse. A social hour will follow the business meeting.

Frank Greif will act as wagonmaster, assisted by Bill Hamilton, for the Hemet Rally outing, Riverside County Fairgrounds in Hemet, the weekend of Nov. 16-18.

Drivers to Review Field Day Results

Results of GD/Convair Sports Car Club's big "Field Day '62" will be reviewed at tonight's meeting (Nov. 7) at 7:30 p.m. in the Convair executive dining room, Pacific Hwy.

Also on the program will be a movie "Pit Stop" to be shown following the coffee break. All GD/Convair and GD/Electronics sports car fans and their friends are invited to attend.

GD/Convair Archers Plan Turkey Shoot

Adults and children will vie for turkeys at GD/Convair Archery Club's annual Turkey Shoot this coming Sunday (Nov. 11) at Balboa Park Field Range.

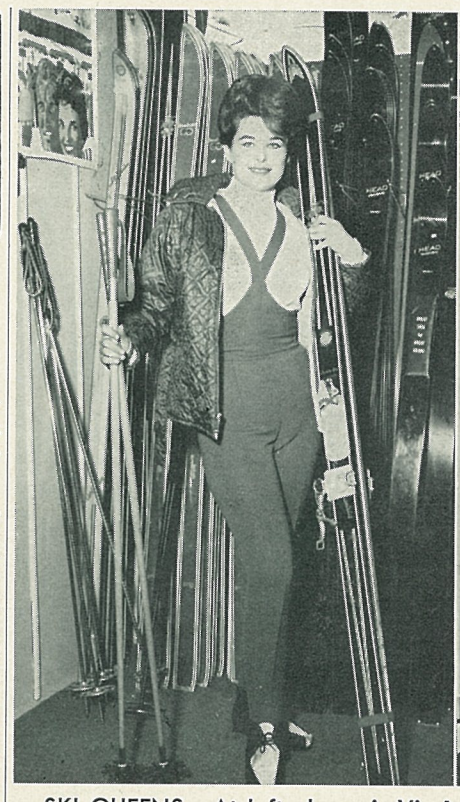
Registration will be taken until 9:45 a.m. with competition starting at 10 o'clock and ending by 2 p.m.

"More than 80 archers competed in the event last year, and we expect even more this year," said CRA Commissioner Al Phipps. "The shoot is open to the general public with fun the theme."

The shoot will include 28 novelty targets with novelty scoring, so that luck will play a big part in deciding winners. Door prizes and special awards for the children also will be given.



CRA PARADE ENTRY—Riding Club Color Guard, headed by Luke Barbour, receives enthusiastic applause from bystanders during annual Apple Day Parade at Julian early last month.





SKI QUEENS—At left above is Virginia Mateja, GD/Astro Dept. 523, in photo by Bob Weaver. She will represent ARA Snow Ski Club in county-wide Sno Ball. At right is Mildred Mosier, GD/Convair Dept. 34, who will represent CRA Ski Club in event.

'Dry-Land' Ski Sessions Set

Skiers at GD/Convair and GD/Electronics will have a chance to get primed for the coming season at a series of dry-land ski sessions, begining tonight (Nov. 7).

Instruction will be offered both juniors, from 9 to 15 years, and adults for the next three Wednesdays at Balboa Park's Conference Bldg. Junior classes are from 5:30 to 7:30 p.m.; adult instruction is 7:30-9:30. Equipment will be furnished without charge.

Instructing in basic fundamentals of skiing, besides CRA Commissioner Joe Harris, will be Franz Saba, professor of physical education at the University of Vienna, presently on the San Diego State College faculty.

Anyone interested in learning the art of snow skiing is urged to take advantage of the instruction, said Harris.

Season's activities will be outlined at the next CRA Ski Club meeting Nov. 20, 8 p.m., in Convair executive dining room, Pacific Hwy. Plans will be made for the club's first skiing trip to Mammoth Ski Area the first of December.

Turkey Shoot Slated Nov. 11

CRA Pistol Club hot shots will be taking birds home from the annual turkey novelty shoot set for Nov. 11.

Commissioner Ash Bishop said that both luck and skill will decide turkey winners so everyone will have a chance to nab the makings of Thanksgiving dinners at the special shoot preceding regular matches at the San Diego Police Pistol Range. Matches begin at 9:15 a.m.

Results of Oct. 28 competition saw Jim Halfacre (Dept. 140) taking the master class in the .22-cal. Police Course event with a score of 291, just one point ahead of runner-up Joe Williamson (Dept. 401-5).

Bishop was first in the expert class with 286; Ralph Picard of GD/E, second, 270.

Williamson won the .22-cal. Short National Match Course with 288. Vern Mardis (Dept. 34) was second with 283; Halfacre, third, 272.

CRA Garden Club Will Hold Election

Garden Club members of the CRA group will elect officers at their regular monthly meeting next Wednesday (Nov. 14).

Commissioner Gene Zimmerman urges everyone to attend the session, 7:30 p.m., Floral Association Bldg., Balboa Park.

General Dynamics Beauties Chosen as Ski Club Queens

Two General Dynamics lovelies —Mildred Mosier, GD/Convair Dept. 34, and Virginia Mateja, GD/Astro Dept. 523—will represent CRA and ARA Ski Clubs respectively at the third annual Sno Ball, Nov. 17.

CRA Commissioner Joe Harris is general chairman for the event which is sponsored jointly by seven area ski clubs comprising the San Diego Council of Far West Ski Association. It will be held in the Cotillion Room, El Cortez Hotel.

Social hour is slated from 8 to 9 p.m., with Paul Ravino's orchestra to play for dancing until 1 a.m.

Intermission entertainment will include a ski style show presented by two local sporting goods firms. All present will be eligible to vote for a Sno Ball Queen, to be selected from among candidates from all clubs represented. Door prizes will be awarded.

All General Dynamics employees, club members and friends, are welcome to attend the Ball. Donation is $1 per person with tickets available from ski club members and at employee services outlets at both divisions.

Larry Atwell is ARA commissioner.

GD/Convair and GD/E Teams in Hoop Play

Six GD/Convair and GD/Electronics teams will tip off in shop league basketball play Nov. 20, said CRA Commissioner Pete Beyrer.

First league games in the "slow break" play will take place at 6:50, 7:55, and 9 p.m. in Balboa Park's Muni Gym.

In a departure from the conventional type of basketball, this year's rules provide for a less active sport so that men of all ages can participate.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODLERS—Flying sessions each Saturday and Sunday, 7 a.m. to 1 p.m., Clairemont Mesa flying site.

ARCHERY — Novelty Turkey Shoot Sunday (Nov. 11), Balboa Park Field Range. Registration closes at 9:45 a.m.

BASKETBALL — First shop league games Nov. 20, Muni Gym, Balboa Park.

BRIDGE CLUB—General Dynamics players invited to weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts.

CAMERA CLUB—Next meeting Nov. 12, 7:30 p.m., Photo Arts Bldg., Balboa Park.

COIN CLUB — Nomination of officers Nov. 15, 7:30 p.m., Convair main cafeteria, Pacific Hwy.

FENCING—Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th & C Sts.

GARDEN CLUB — Meeting Nov. 14, 7:30, Floral Assoc. Bldg., Balboa Park.

GOLF—CRA tournament, Carlton Oaks CC, Nov. 10-11.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES—Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission: adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Annual Turkey Shoot and regular matches Nov. 11, 9:15 a.m., SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—Regular meeting tomorrow night (Nov. 8), 8 p.m., Harbor Drive headquarters.

RIDING CLUB — Color Guard will participate in Brawley parade Saturday (Nov. 10).

ROAD RUNNERS — Monthly meeting Nov. 15, Gillespie Field Clubhouse. Judicial board meeting, 7 p.m.; regular meeting and social hour, 7:30. Next outing to Hemet Rally, Nov. 16-18.

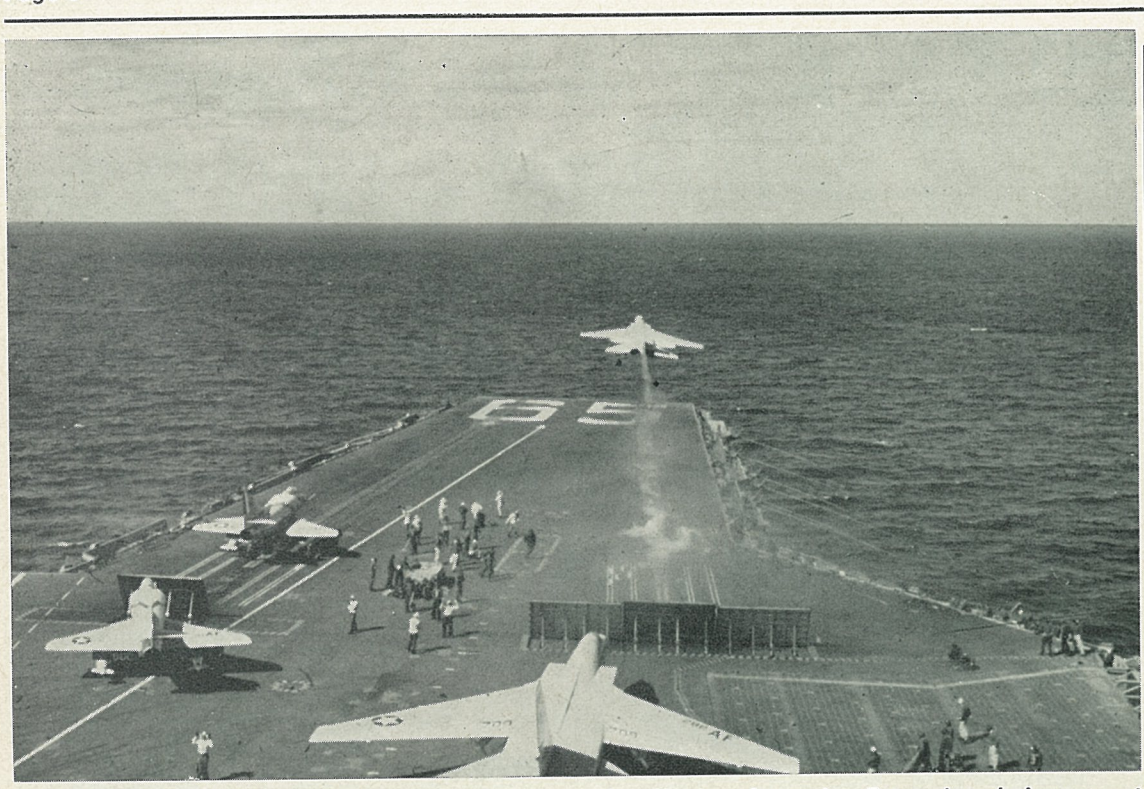
ROLLER SKATING — Next skate night Nov. 19, Skateland, Front and G Sts. Free tickets at employee services.

SNOW SKI CLUB — Dry-land ski instruction for juniors and adults starts tonight (Nov. 7) at Conference Bldg., Balboa Park. Juniors class at 5:30 p.m.; adults, 7:30. Annual Sno Ball, El Cortez Hotel, Nov. 17, 8 p.m.-1 a.m. Regular meeting Nov. 20, 8 p.m., Convair executive dining room.

SPORTS CAR CLUB—Monthly meeting tonight (Nov. 7), 7:30 p.m., Convair executive dining room.

SQUARE DANCING — Intermediate and advanced sessions Tuesdays, 8 p.m., American Legion Hall, 4061 Fairmount Ave.

WATER SKI CLUB—Weekend skiing on phone-call basis. Call Gene Sevigny, ext. 1657, or Jack Loos, ext. 2456, both Plant 1.



OFF THE DECK—Navy A3J attack bombers swoosh off aircraft carrier Enterprise during recent three-month checkout of REINS navigation and bombing system, for which GD/Electronics at SD is building radar. Maneuvers took Enterprise into Mediterranean and Aegean waters.

Navy Squadron Checks Out A3J Bomb-Nav. Gear

A Navy heavy attack squadron recently completed first operational checkout of the A3J-1 bomb-navigation system, including the GD/Electronics-developed radar, during a three-month exercise in the Atlantic and Mediterranean.

Initial deployment of the weapon system at full squadron strength was the assignment of the planes aboard the Navy's largest aircraft carrier, the Enterprise. The large nuclear-powered craft with its squadron of A3J Vigilantes made a first run from its home base at Norfolk, Va., to Boston, Mass., over the Fourth of July before leaving for European waters.

Simulated shore and ship attacks were made, day and night, throughout the voyage and training exercises were coordinated en route with ships of other NATO countries, reported Max Leeds, GD/E chief of REINS support engineering. Leeds made the entire cruise in support of checkout and maintenance of GD/E's radar system.

Other GD/Electronics men involved included Norm Niemet, GD/E field service representative, who was aboard during the Norfolk to Boston run, and J. L. Brooks, GD/E manager of airborne radar engineering, who kept in close touch with progress of operations, meeting the ship in Naples for a short briefing.

A team of five North American Aviation field engineering representatives were assigned to the task throughout the air operations.

The Enterprise spent several weeks in the Mediterranean and a week in Aegean Sea, before returning to Norfolk in mid-October.

GD/E Engineer Pays Visit to Barcelona

A GD/Electronics engineer was able to snatch a few days from a recent tour of duty to visit relatives in Barcelona, Spain, whom he hadn't seen in 26 years.

Max Leeds, assigned to the Enterprise during checkout of the REINS system, took opportunity of a short leave at Cannes to fly to Barcelona, his birthplace, for a family reunion. Joined by his mother and father, now of New York, he renewed ties with an aunt and uncle whom he had not been able to visit since the Leeds' family left Spain during the 1936 revolution.

HORNE SPEAKER AT LOS ANGELES

C. F. Horne, General Dynamics/Pomona and GD/Electronics president, was keynote speaker Oct. 25 at the California Industrial Development Conference in Los Angeles. His subject was "Electronics—Aerospace—and You."



HOME AGAIN—GD/E and North American men review tasks in support of REINS operational tests aboard Enterprise following return to San Diego in mid-October. From left are Phil Harms, North American field engineering rep; Norm Niemet, GD/E field service rep; Max Leeds, GD/E chief of REINS support engineering.

GD/E Delivers Radar System For A3J Navy Attack Plane

Delivery of an advanced radar system for the A3J Navy attack bomber has been announced by the builder, General Dynamics/Electronics at San Diego. The A3J is a carrier-based aircraft built by the Columbus Division of North American Aviation.

GD/Electronics developed the radar under a series of contracts from North American's Autonetics Division. Value of the contracts to date is set at approximately $27 million.

The radar is being built as a sub-system of REINS (Radar-Equipped Inertial Navigation System) which Autonetics is producing for the Navy aircraft.

The original General Dynamics contract covered engineering and design work. Other contracts were then issued for production, spares, tooling, and test equipment, and support services such as field engineering and test programs. All the development and production effort has been handled at the GD/Electronics plant in San Diego.

The lightweight, versatile radar is a major sub-system of the A3J navigation and bombing system, which can be used for low and high level penetration and delivery of conventional and nuclear weapons. It is also capable of being used for launching of air-to-ground missiles.

Various radar operational techniques provide a presentation in the form of a ground map on the radar indicator. Navigational fixes for determining aircraft position can then be obtained from this ground map.

Pitch and roll stabilization is provided, producing a steady map throughout normal maneuvering of the aircraft. An antenna tilt control permits uniform ground illumination from any altitude. The tilt control is also used to spotlight a particular target.

For bombing missions, the radar provides accurate target coordinates by utilizing sector scans, expanded sweep, and range and azimuth cursors. Slant range information is obtained by manually positioning a range cursor over the selected target displayed on the range indicator. Then the range cursor automatically tracks the selected target.

As the aircraft makes its approach, the target can be kept at a constant size by use of a variable-expansion sweep.

The aircraft has separate radar indicators for the pilot and bombardier-navigator. Provisions are incorporated in the bomb-navigation system for displaying closed circuit TV on indicators for both the pilot and the bombardier-navigator.

W. S. Stroud is REINS program manager at GD/Electronics.

Cameras 'Thump, Splash' After Rides on Atlas

Although only "hitch hikers" in a sense, motion picture cameras now riding some test-launched Atlas missiles are opening up new possibilities in the field of in-flight instrumentation.

General Dynamics/Astronautics and the Air Force have been experimenting with this technique over the past five months at both Pacific and Atlantic Missile Ranges.

To date, results have been encouraging.

Just what happens as an Atlas lifts off and goes through its sequence of programmed maneuvers before engine cut-off is vitally important. Telemetry data and long range telescopic tracking units have provided information which is highly reliable, but somewhat limited in detail.

Motion pictures capture details and provide a lasting record.

Movie cameras in the past have filmed nose cone separation, but the current work is the first showing booster staging.

Current experiments involve two different installations, one for filming lift-off, another for photographing staging. Cameras are basically the same, shooting 100 feet of film at 400 frames per second. Each may be equipped with a Sun Gun light for 3,200 foot candles of illumination, if needed. Both camera and lights are powered by small 28-volt batteries, one per unit.

Lift-off camera development work has centered at GD/Astro with C. N. De Mund as leadman on a team that includes Blake Barton, W. G. McClure, D. W. Berry and H. I. Reavely, assistant supervisor. All are members of Astro's motion picture and television section of communication department.

Other departments have contributed to the effort, especially sections of engineering design and test laboratories.

Strong aluminum housing units are built around the section housing the camera. Self-hardening foam is poured between the sections. Complete units weigh about 35 pounds. They are positioned on the exterior of the thrust section and "shoot" through quartz glass "windows."

These units operate for about 10 seconds following lift-off, but because of their speed, turn out 4,000 frames of film.

Recovery equipment is mounted snugly inside and includes a 14-foot parachute. A cable, coil spring and a small explosive charge work in sequence to eject the entire unit down through the Atlas engine exhaust stream.

"Despite the slowing of the parachute, camera units normally strike the ground at about 50 miles per hour," De Mund said.

Provisions for camera mountings are made at GD/Astro main plant with test base personnel handling installations, with technical assistance from photo specialists.

Cameras for photographing staging usually do not start shooting until Atlas is 50 miles up and 50 miles downrange. Cased in aluminum tubes, they are normally mounted on the aft end of the missile tank and provide 110-degree views.

Because recovery is usually made from the ocean, staging cameras require more elaborate gear.

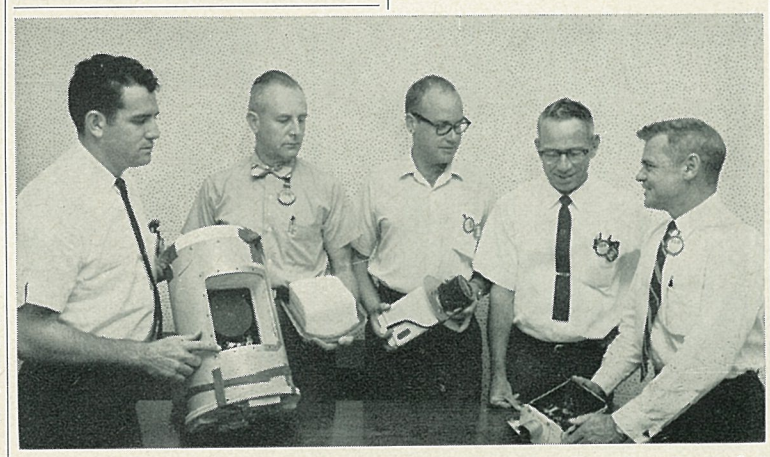
They utilize a para-balloon that later provides flotation. Small strobe lights, radar chaff and a radio beacon help patrol craft find them.

Drop tests were conducted at Point Loma, then complete units were taken up to be dropped from helicopters, with or without parachutes.

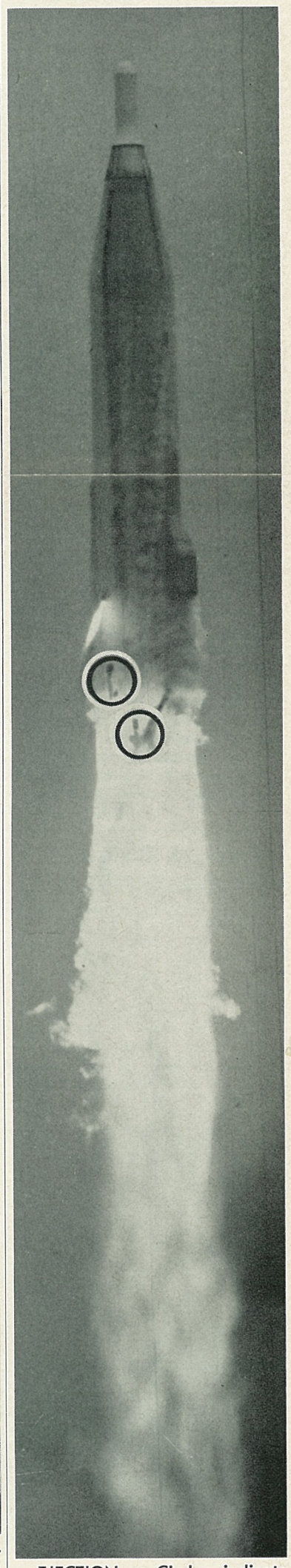
"The fact we have recovered cameras with useable film from missiles destroyed by range safety officers after lift-off indicates the packaging techniques used are sound," Reavley added.

In fact, some recovered cameras were in good enough condition for further use.

Success of the current effort has been such that those responsible are eyeing other applications for their "hitch hikers," possibly in some role involving space launch vehicles under development.



KEY MEN—Among GD/Astro men who developed system for mounting motion picture cameras on Atlas for filming in-flight operations are, from left, W. G. McClure, Hal Reavely, C. N. De Mund, D. W. Berry and Blake Barton.



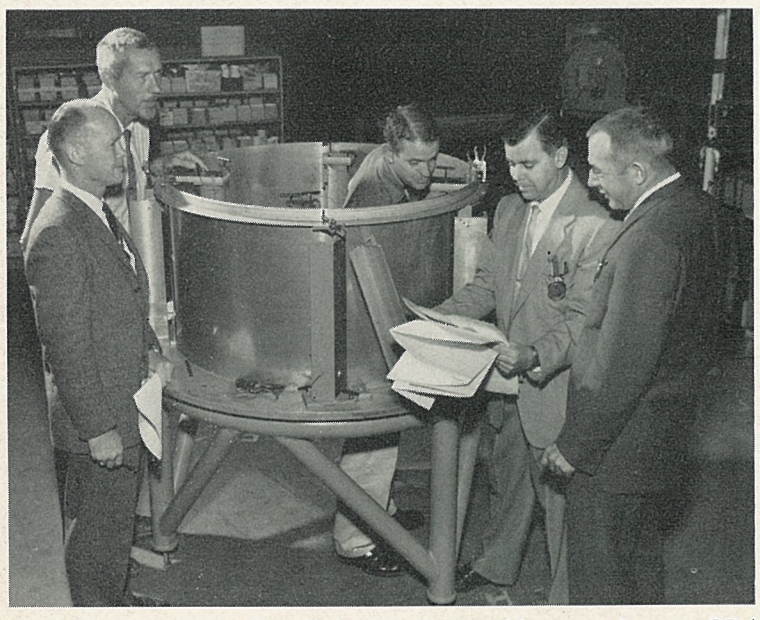
EJECTION — Circles indicate movie cameras instant after being jettisoned by rising Atlas.

GENERAL DYNAMICS

NEWS

SAN DIEGO EDITION

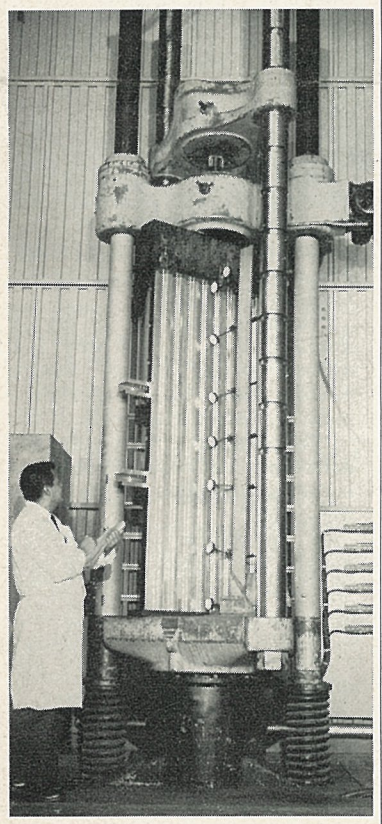
Vol. 15, No. 24 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, November 21, 1962



FIRST ASSEMBLY—First Little Joe II assembly operations at GD/Convair late last month drew interested audience of, from left, C. S. Strand (Dept. 31), G. S. Durland Jr. (Dept. 48), Willard Martin (Dept. 31), N. R. Keough, experimental superintendent. Inside tube lining doing first assembly work is E. D. Compton of Dept. 31.

'Little Joe' Panel Proves Rugged

A unique type of skin panel, destined for Little Joe II launch vehicles, now under construction at General Dynamics/Convair, stood up under more than 80,000 lbs. of load in structural tests early this month.



UNDER TEST — Corrugated panel for Little Joe II launch vehicle undergoes rugged test in GD/Convair structures lab with S. S. Sifuentes, structures lab test engineer, taking readings from dial indicator deflection gauges.

Unlike most missiles and boosters, Little Joe II's skin is corrugated aluminum, made from dies similar to those used for patio roofing and on the same folding machine used to put "waves" in industrial siding.

The low-cost metal skins, made to GD/Convair specifications by Alcoa Aluminum, inherently increase the strength of the launch vehicle which must support 80,000 pounds of payload during sub-orbital testing of the Apollo spacecraft. Little Joe II's first flight is slated for mid-1963 at White Sands Missile Range in New Mexico.

GD/Convair engineers, who conceived the idea of using the corrugated type of skin, say that a smooth-skinned launch vehicle would have to be supported by vertical stringers attached to its sides. The corrugated design eliminates the stringer requirement and accompanying higher manufacturing costs.

In addition to low cost and high strength, the corrugated panels have other advantages. Engineers are running electrical wiring and harnesses down the natural channels formed by the "waves." The channels can be used both inside and outside. Also, the corrugated skin serves as an air passage or simple vent system to maintain constant inside and outside pressure during climb through the atmosphere.

(Continued on Page 2)

GD/E Con-Trib-Club Membership Climbs

General Dynamics/Electronics-San Diego membership in Employees' Con-Trib-Club has climbed from 69 per cent at the start of a recent campaign to 89 per cent.

"This is an excellent showing and we are most gratified at the liberal response," John Lombardo, general manager, commented. "Not all of the cards that were distributed have been returned, so we still stand a chance of going over 90 per cent."

Ticket Sales Begin Monday For GD/E Party

Tickets will go on sale next Monday (Nov. 26) for the first Christmas party for all General Dynamics/Electronics people in San Diego.

This is the first year the two GD/Electronics facilities, Plant 1 and Plant 2 (Hancock St.), will join in celebrating.

The dinner-dance is slated for Sunday, Dec. 23, in the Fleet Room of Del Webb's OceanHouse on Highway 101.

Dancing to Bart Hazlett's seven-piece dance band will occupy the evening with surprise entertainment promised.

Since accommodations are limited to 1,000 people, everyone is urged to purchase tickets well before the deadline date of Dec. 19. Cost is $4 a person. Tickets may be obtained from department clerks and staff secretaries throughout both plants.

Committees in charge include Lou Diamond, promotion chairman, assisted by Ernie Paul, Fred Acomb, Diane Hofer, Nancy Ellis.

Peggy Tracy heads the ticket committee composed of Dorothy Farrell, Elaine Harmon, Wanetta Helms, Mary Ransom, W. A. Huot, Sue Chappel, Juanita Hogue.

GD/E Wives to Meet At Xmas Luncheon

Wives of General Dynamics/Electronics employees in San Diego will gather for a Christmas luncheon Thursday, Dec. 13.

The holiday affair, sponsored by GD/E Wives Club, will be held at the University Club, 1333 Seventh Ave. Social hour starts at 12:30 p.m. with luncheon at 1 o'clock. Price for the luncheon is $2.50 each.

Everyone attending is asked to bring a gift, costing not more than $2, in the Christmas motif, such as house or tree decorations.

Reservations must be made before Dec. 11 by calling Mrs. Don A. Siebenaler, CO-2-1189.



BIG MATE—C-141 assembly at GD/Convair shows dorsal longeron assembly going into huge vertical stabilizer fixture for tie-in to center spar. N. P. Pearson, in charge of C-141 production, and E. E. Miller, Dept. 141 assistant foreman, watch Mauro Lopez and Jim Volkov (kneeling) start tie-in while Frank Serio steadies dorsal longeron assembly.

C-141 Empennages In Work at San Diego

C-141 production is progressing according to schedule at General Dynamics/Convair with two empennages now in work.

The huge fixtures in the Bldg. 2 assembly area now are being loaded with parts for first two of the empennages being built at GD/Convair for the Air Force jet cargo plane under a subcontract from Lockheed-Georgia Co.

Each major move is being made to schedule, said N. P. Pearson, foreman of C-141 production activities at GD/Convair.

Both horizontal and vertical major assembly fixtures are loaded for article No. 1 with skin panel fixtures in work as well as all supporting sub-assembly parts. This article is scheduled for April delivery.

Work is starting on spars for horizontal and vertical stabilizers and on the skin panels for the vertical stabilizer slated for empennage No. 2, the static test article. This will be the first empennage out of the San Diego facility. It is due to leave GD/Convair for Lockheed's Georgia division in March.

Work on the third empennage will begin in December. This article will undergo structural testing at GD/Convair's ramp facility.

'You CAN Do It Right!' Is Theme Of New Emphasis on Reliability

"You can do it right, if you think you can," is what every person at General Dynamics/Convair is hearing over and over as reliability, with a capital R, is stressed in an intensive program designed to reach everyone connected with space age projects.

"Our mental attitude must make it impossible for any one of us to be satisfied with anything but the perfect!" emphasizes W. J. Martin, director of reliability. "What might have been good enough in the past, will not meet the higher and higher standards demanded in the future.

"If we intend to compete for space-type work, we must guarantee absolute reliability all down the line."

Since formal "Space Age Reliability" training began at GD/Convair in late summer, 876 people, both supervision and hourly, from all departments have gone through 33 classes. This week four classes concluded for Rose

(Continued on Page 2)

GD/Convair Designated by FAA For Overhaul and Maintenance

General Dynamics/Convair has been designated by the Federal Aviation Agency as a fully qualified repair station for overhaul and maintenance of all Convair-built commercial transports.

Award late last month of an Air Agency Certificate establishes the San Diego facility as a complete aircraft manufacturer and repair agency for its commercial planes, explained W. J. Martin, director of reliability, in making the announcement.

"We feel that obtaining this particular FAA certification is an important milestone for the division," Martin and G. A. Covington, manager of quality control, agreed following approval.

"Without it, no aircraft manufacturer may repair or maintain its own craft, or any other."

The recently-awarded Air Agency Certificate empowers GD/Convair to operate an approved repair station, expanding repair operations which, until now, have been limited to work on instruments and accessory equipment.

Commercial flight instrument maintenance has been carried on at Rose Canyon under a certificate for a basic repair station, held by the division since 1942.

Expansion of GD/Convair's re-

(Continued on Page 2)



"R" MEANS RELIABILITY—W. F. Weidenfeller of GD/Convair educational services shows Rose Canyon reliability class what NOT to think as individual responsibility is stressed in current training.

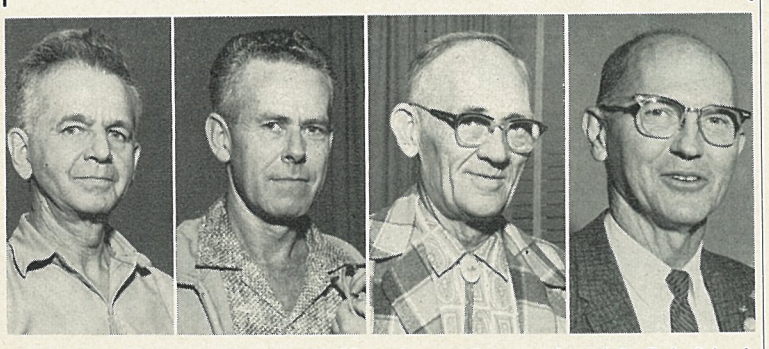
Management Club's Xmas Dance Dec. 15

Management club members at GD/Convair and GD/Electronics are looking forward to their annual Christmas dance to be held Dec. 15.

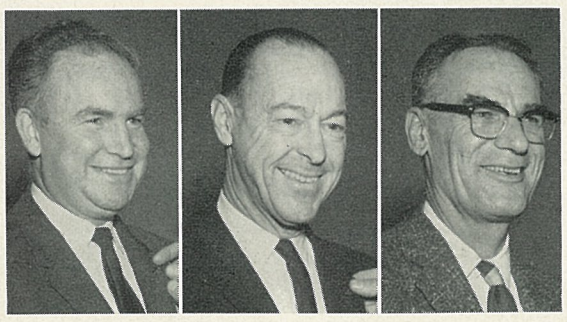
Members and their guests will gather this year for their holiday affair at Del Webb's OceanHouse on Pacific Hwy., said L. G. Lawson, general chairman.

Tickets are slated to go on sale next week at all regular outlets.

Log Book Entries



Receiving 25-year emblems at GD/Convair recently were, from left: F. L. Schneider, Dept. 133; R. H. Kenner, Dept. 280; J. E. Mullican, Dept. 401-5, and R. D. Gowdy, Dept. 101.



Also passing quarter century mark recently were, from left: H. A. Mohr, Dept. 101; R. F. Perry, Dept. 401; L. L. Stabenau, Dept. 101.

Service Emblems

CONVAIR

Service emblems due during the period Nov. 16 through Nov. 30.

Twenty-five-year: Dept. 48-31, M. J. Iverson.

Twenty-year: Dept. 3-1, M. M. Walker Jr.; Dept. 6, W. H. Ebright, A. G. Hull, G. R. McElroy, J. L. Smiley; Dept. 14, L. L. Bender, P. E. Franks; Dept. 24-4, H. E. Ledington; Dept. 25-5, P. L. Talbott; Dept. 31, F. S. Bender; Dept. 48-81, L. H. Cooke; Dept. 91-0, J. W. Hoover, C. B. Thuneman; Dept. 133, Daniel Aldama, B. L. Baxley; Dept. 140, D. R. Bryson, H. R. Roeser, Houston Wilkison Jr.; Dept. 171, C. E. Heiland; 400-1, T. T. Hayden.

Fifteen-year: Dept. 14, Doris L. Gustafson, Frances N. O'Leary; Dept. 21-3, Clarence Morris; Dept. 48-05, M. P. Powers; Dept. 115, H. A. Crane; Dept. 133, C. R. Cox, Benjiman Fink, N. M. Willmuth; Dept. 171, P. J. Estrada, V. H. Gilmore, D. C. Lucas; Dept. 192-1, Grace M. Priestley, R. E. Vogel; Dept. 216, Marjorie V. Archibeque; Dept. 279-0, H. E. Chadwick; Dept. 401-4, H. E. Rogers.

Ten-year: Dept. 6, N. A. Cross, J. K. Guthrie, J. R. Stitt; Dept. 14-7, J. T. Martinez; Dept. 15-0, Bernice H. Kellar; Dept. 16-4, Sara I. Whisler; Dept. 24-4, R. T. Collins; Dept. 25-6, J. E. Epler; Dept. 34-1, B. M. Hall Jr.; Dept. 48, W. E. Dudley, R. E. Myrann; Dept. 192-5, Helen D. Thom; Dept. 205, E. W. King; Dept. 216, Freda R. Willis; Dept. 401-5, L. A. Morin.

GD/ELECTRONICS

Twenty-year: Dept. 71-00, N. J. Wardlow.

Ten-year: Dept. 33-00, Lillian E. Mouser; Dept. 71-00, R. T. Lewis; Dept. 72-00, Jessie M. Moore; Dept. 75-00, D. R. Alden.

Promotions

CONVAIR

Promotions to or within supervision.

Dept. 90, Controller's Office: To manager of cost accounting, J. J. Jodka.

Dept. 91-1, Accounting: To accounting asst. supervisor, J. A. Dematteis.

GD/ELECTRONICS

Dept. 24-00, Systems & Procedures: To factory methods asst. supervisor, J. E. Rutledge.

Dept. 41-30, Material: To material control supervisor, Plant 1, K. F. Farnsworth.

Dept. 73-20, Operations: To M/C asst. foreman, O. H. Elder Jr.

Personals

CONVAIR

I would like to extend my sincere appreciation to all of Brad's friends at Convair who were so wonderful to him during his last days. I will always be deeply grateful for their many kind expressions of sympathy.

Mary J. Bradley.

* * *

Mrs. Whit H. Jones and family send to Convair employees their grateful thanks for the beautiful floral tribute and kind expression of sympathy when sorrow came to us through the loss of husband and father, Whit Jones.

Lost & Found

CONVAIR

LOST—Reward offered for return of man's yellow gold ring with ruby setting lost Nov. 15 in Bldg. 1, Plant 1, near Col. B-14. R. L. Shinn, Dept. 101, ext. 1200 or 468.

Retirements

CONVAIR

AVILA—John, Dept. 21-1. Seniority date Sept. 26, 1956, retirement effective Aug. 4, 1962.

CAVENDER—John L., Dept. 116. Seniority date March 20, 1951, retirement effective Oct. 31, 1962.

DERNOVOI—Sergei M., Dept. 140. Seniority date Dec. 31, 1935, retirement effective Oct. 31, 1962.

DOYON—Ernest, Dept. 400. Seniority date Sept. 11, 1952, retirement effective July 24, 1962.

GICANTE—Joe D., Dept. 148. Seniority date June 20, 1954, retirement effective Sept. 19, 1962.

JOHNSON—Neal D., Dept. 128. Seniority date April 13, 1956, retirement effective Oct. 31, 1962.

KELLY—Bernice K., Dept. 48. Seniority date Aug. 2, 1950, retirement effective Nov. 2, 1962.

MARTIN—Eugene R., Dept. 223. Seniority date Feb. 7, 1955, retirement effective Oct. 15, 1962.

NAST—Cecil K., Dept. 215. Seniority date Jan. 31, 1952, retirement effective April 13, 1962.

PARKER—Irene M., Dept. 48. Seniority date Jan. 31, 1952, retirement effective Oct. 3, 1962.

PASCO—Otis C., Dept. 6. Seniority date July 18, 1941, retirement effective Oct. 31, 1962.

PETERHANSEL—Otto, Dept. 215. Seniority date Jan. 27, 1930, retirement effective Oct. 31, 1962.

ROBBINS—Russell L., Dept. 192. Seniority date Oct. 26, 1955, retirement effective Aug. 29, 1962.

ROBERSON—Morris L., Dept. 25. Seniority date Jan. 8, 1953, retirement effective June 25, 1962.

SHORT—Oliver E., Dept. 21-2. Seniority date Aug. 5, 1953, retirement effective Sept. 27, 1962.

THOMPSON—Alfred, Dept. 101. Seniority date April 15, 1955, retirement effective Sept. 1, 1962.

TROY—George E., Dept. 192. Seniority date Sept. 6, 1956, retirement effective Aug. 8, 1962.

Rider-Driver

CONVAIR

RIDE WANTED — 7:30 a.m.-4 p.m., from Park & University to Rose Canyon. Kay Crist, home phone CY-5-5748 or Rose Canyon, ext. 2155.

RIDE or CAR POOL WANTED — 7 a.m.-3:30 p.m., from Vista (via Hwy. 101) to Plant 1. Frank C. Romero, home phone PA-4-2873, or plant ext. 2056.

GD/Electronics Golfers Set Club Tournaments

Golfers at GD/Electronics Plant 1 are invited to join in the schedule of club tournaments set up by the GD/E Plant 2 (Hancock St.) golf club.

Ernie Paul, club president, said that coming tourneys include one on Dec. 1 at the Coronado course, starting at 10 a.m.; and another, two weeks later, Dec. 15, at Caliente Country Club, 9:50 a.m.

For details call Paul at 298-8331, ext. 96.

General Dynamics NEWS

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'Little Joe' Panel Tested For Strength

(Continued from Page 1)

In static failure testing at the San Diego structures lab facility, the test panel, 36½ inches wide and 81 inches long, failed at the 83,000-lb. total load point. Load was applied in 10,000-lb. increments to 60,000 lbs., and then in 2,500-lb. increments to failure.

There was virtually no buckling deflection at any point until the load neared the peak, said Dave Fletcher and S. S. Sifuentes, structures lab test engineers. The entire panel compressed only one-quarter of an inch at failure.

Structural testing was to certify and supplement theory on design allowables (margin of safety for design loads), explained Robert Penneman, senior structures engineer on Little Joe II.

J. B. Hurt, GD/Convair's program manager for Little Joe II, said that the versatility and reliability being designed into the entire vehicle will give it capability to perform other test missions as well as the sub-orbital Apollo launch.

He predicts that Little Joe II would have a long life before being obsoleted by requirements beyond its capabilities.

Hurt said a single Little Joe II will probably cost less than the payload it carries and in explaining other aspects of the vehicle design said, "High reliability will be achieved by keeping subsystems simple and few in number. Little Joe II's guidance system will be easily adapted to fit mission requirements. And, the launcher will be the lowest cost and simplest possible for aiming the launch vehicle in azimuth and elevation."

Repro. Section Now in Bldg. 5

GD/Convair's offset reproduction section is now located in a new area on the ground floor of Bldg. 5, Plant 1.

H. B. Day, graphic reproduction supervisor; James Dempsey, offset section assistant supervisor; central distribution under Dorothy McEwen, and all of the other personnel, numbering 83, now are based in a newly-renovated 7,000-sq.-ft. office and production area at the north end of the building. Access is from the outside, near the photo lab entrance.

This move centralizes all division reproduction functions, including the art group, blueprint reproduction, photo lab, within Bldg. 5 for more efficient production and greater convenience to customers.

The larger offset section space allows better arrangement of equipment for a more even work flow, said Day. Also, addition of a stockroom within the area will permit more efficient material handling.

"Relocation of our facilities will save a great deal of time and money, allow better utilization of our personnel and equipment, and greatly increase productiveness," concluded Day.



FAA APPROVAL—J. T. Annis of Federal Aviation Agency (far right) presents Air Agency Certificate for repair and overhaul of GD/Convair craft to W. J. Martin, director of reliability, as G. A. Covington, manager of quality control, looks on.

GD/Convair Designated by FAA For Overhaul and Maintenance

(Continued from Page 1)

pair and overhaul certification now permits complete maintenance of the Convair-Liner series —Models 240, 340, 440—Convair 880 and 990 jet transports, and the DC-6.

The comprehensive FAA repair station approval covers repair and overhaul of the airframes themselves; maintenance of Class 1, 2, and 3 radios; Sperry and Bendix autopilot systems; such instruments as turn and bank indicators, directional gyros, horizon gyros.

Specialized service under the certificate includes magnetic, penetrant, ultrasonic, fluoroscopic, eddy current inspection.

Repair station responsibilities are assigned to Dept. 48, under direction of Covington. Coordinating procedures for FAA approval were C. W. Owen, and H. L. Laird, inspection assistant supervisors. Owen is in charge of instrumentation overhaul and nondestructive testing at Rose Canyon repair station site, while Laird will oversee overhaul and repair work on the aircraft and in the electronics test facility at Plant 1.

'You CAN Do It Right!' Is Theme Of New Emphasis on Reliability

(Continued from Page 1)

Canyon functions, including personnel from purchasing, traffic and material stores, transportation, material operations, inspection, manufacturing control.

Demand has been so great for the classes, said H. W. Rubottom, chief of educational services, that a continuous schedule of the three one-hour sessions has been run since mid-August. Follow-on meetings will be scheduled to give departments a chance to report specific steps they have taken to improve reliability.

In addition, individual departments, with the assistance of educational services, are supplementing the classroom training with continuous briefings to keep their people constantly informed on new developments and changes.

"Thinking reliability is the vital point we are trying to instill in everyone who attends the classes," said W. F. Weidenfeller, educational services coordinator and instructor.

"We must accept reliability as an individual responsibility and sweep our minds of the old hackneyed alibis.

"Such excuses as 'to err is human,' 'this is the way it's always been,' 'there wasn't enough time to do it right,' must go down the drain.

"One mistake can ruin an entire product—and, in this demanding age, there is no room for error."

As reliability is factually brought to the attention of individuals actually working on the products, Martin and his Product Assurance Board meet regularly to consider overall product reliability.

Representatives from production, material, engineering, quality control, customer service, manufacturing control, value control, industrial relations are charged with examination of all phases of production—from planning to delivery—to guarantee maximum reliability and highest quality.

"It is imperative that we meet the challenge of reliability individually and as a team," concluded Martin. "Our products must be the best we can possibly achieve and every step counts—from the first line on the drawing board, each rivet hole drilled, through to the final crating for delivery."

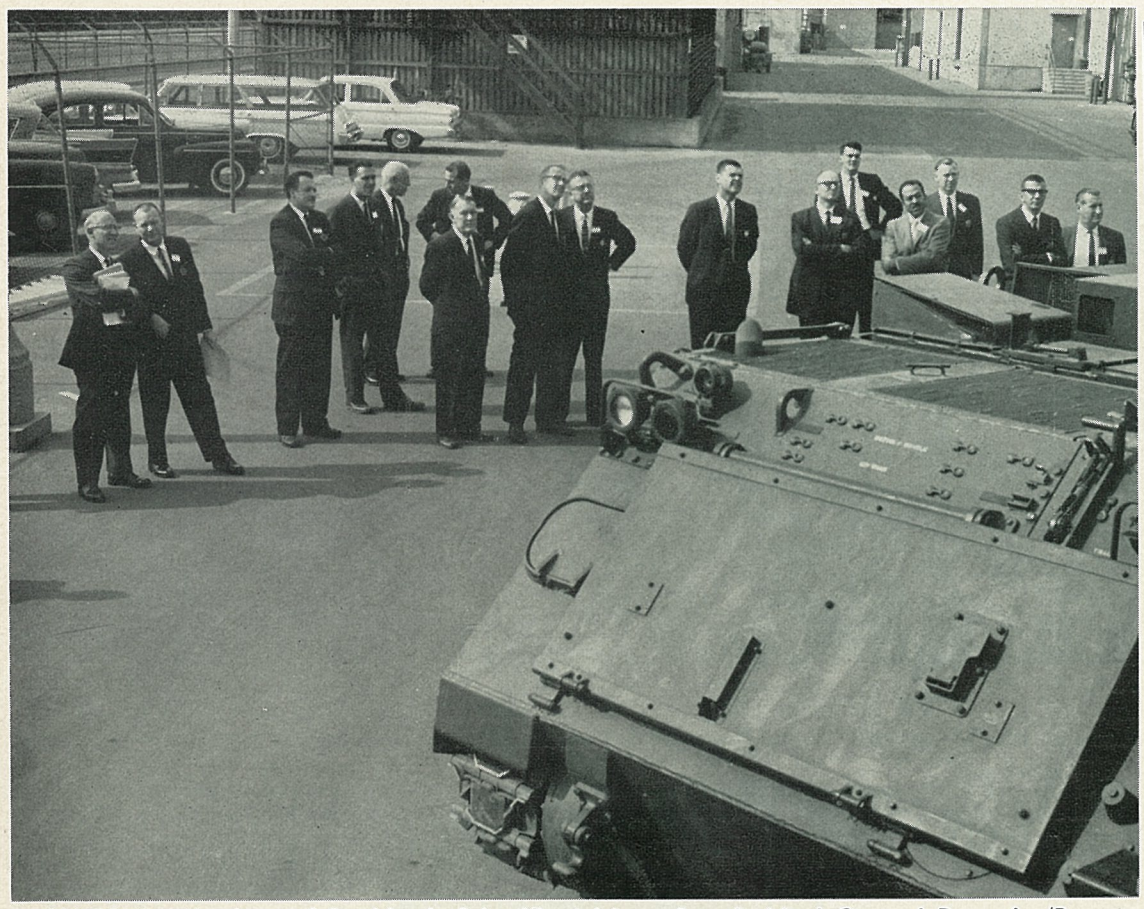


QUALITY TALK—Product Assurance Board meets for discussion of product improvement in regular session at GD/Convair. Around table from left are W. J. Martin, director of reliability; R. V. Shields, chief of engineering reliability; H. P. Williams, value control manager; H. W. Rubottom, chief educational services; Charles Wallman, quality control; S. B. Stevens, service engineering; M. S. Stepich, chief manufacturing control; F. H. McLaughlin, factory manager; R. C. Hartwig, manager systems and procedures.

Lombardo Announces GD/E Title Changes

A change in titles to more clearly define responsibilities of GD/Electronics managers of engineering has been announced by John L. Lombardo, general manager at San Diego.

Dr. Don Wahl is now manager of research and engineering involving sensor products, while A. H. Wisdom, formerly manager of engineering Plant 2 (Hancock St. facility), is manager of research and engineering — data products.



ON TOUR—Members of President's Scientific Advisory Board visited General Dynamics/Pomona earlier this month for briefings and demonstrations of Mauler Weapon System. On tour were Dr. Luis W. Alvarez, chairman of Limited Warfare Panel; Dr. Wm. B. McLean, technical director, NOTS; Dr. Charles C. Lauritsen, physics professor, California Institute of Technology; Dr. Vincent V. McRae, technical assistant, Limited Warfare Panel; Nelson Riordan, manager, re-entry systems analysis, Aerospace Corp. Col. Milford Wood, office chief—Research and Development, Army, and Ron Gober, Mauler project manager, Army Missile Command, Redstone Arsenal, also were at Pomona to participate in Mauler program discussions.

'All's Well'

Research Boat Radios Conditions to Shore

A steady white light is a reassuring sight to General Dynamics/Convair instrumentation engineers as they train binoculars on an orange and white craft, now moored off-shore as an instrumentation test bed in current oceanographic studies.

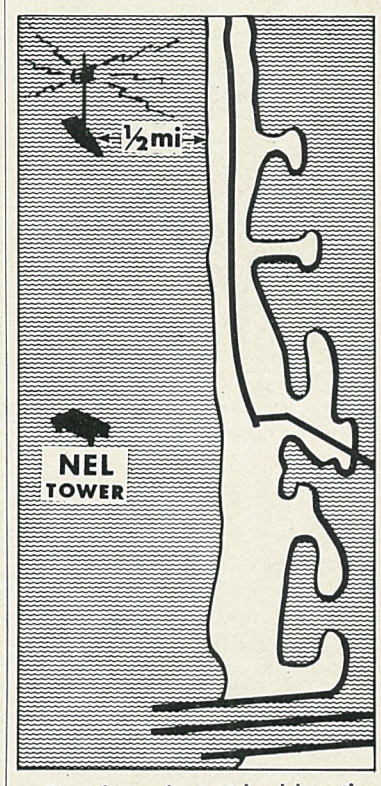
The 36-ft. all-steel Navy landing craft, topped by a 30-ft. snorkel, was anchored on-station about half a mile off the Mission Beach shoreline at San Diego the end of October. It will be signaling "all's well" for the next three months as it proves out GD/Convair-developed components, principally engine generator and electrical equipment, to be used for telemetering buoys.

GD/Convair instrumentation engineers in the oceanographic group are reaching final stages in their development and testing of radio telemetering techniques by which instrumented buoys would transmit information from any part of the ocean to shore stations. Work is performed under a contract from the Office of Naval Research, Washington, D. C.

All equipment aboard the test craft is now in operation and functioning satisfactorily, according to Robert Devereux, who acts as principal investigator for ONR.

Coded signals are transmitted over a radio telemetry link to GD/Convair's engineering data station. Information, such as battery voltage, pitch and roll angles, mooring load, is tape recorded as it arrives at the data station, then played back through data reduction equipment for oscillograph records. Pickup of wind direction and velocity may be added later to transmitted information.

A camera is constantly photographing the instrument panel in the craft, recording such items as data correlation, time of day, manifold pressure, engine revolutions per minute, engine and snorkel temperatures, and pressure measurements. Film will be replaced once a week.



Sketch marks test bed location off coast near San Diego's Mission Bay.

Telemetering instrumentation aboard the boat can be controlled by remote-controlled commands ashore by use of a VHF radio remote control system in oceanographic headquarters, Bldg. 51, Plant 1. Telemetry equipment can be turned on and off and calibrated by a switch of a button in the GD/Convair plant. Also, an ultra high frequency radio link allows direct voice communication by anyone aboard the boat to the Plant 1 data station.

A blue light atop the snorkel indicates that the engine is running; the flashing white navigational light warns other craft of the boat's location. A steady white light indicates that all functions are operating. A microphone aboard picks up strange noises which might need investigation.

Present equipment check is but one phase in the overall oceanographic study which will determine the best transmission package, including not only instrumentation but buoy configuration, antennas, power plant for gathering ocean and atmospheric data automatically.

Involved in the studies, besides Devereux who has been in charge of coordinating the oceanographic project since its inception, are Gene Wilson, Warren Hoover, Ken Morgan, James Lack, Jack Heming, all reporting to Norm Reed, flight test group engineer. V. J. Schack is responsible for overall direction.



GD/E DISPLAY—J. E. Bowen, GD/Electronics, San Diego, shows production model of terrain avoidance radar to Gen. Barksdale Hamlet, Vice Chief of Staff, U.S. Army, at Washington, D. C. In center is R. D. Childs of GD/E, SD.

GD/E Terrain Avoidance Radar Displayed at Army Gathering

Display of the terrain avoidance radar system, developed by General Dynamics/Electronics — San Diego, drew hundreds of spectators at the annual meeting of the Association of the U. S. Army in Washington, D. C.

During the three-day exhibit, 1,700 persons tried their skill at manually operating controls of the "pin-ball" demonstrator, said J. E. Bowen, GD/E requirements representative. Lights flashed and a "clobbered" sign brought red faces when operators let the indicator move out of control. Black-edged "condolences" went to failures and bright green "home safe" certificates to the successful.

The demonstration illustrated capabilities of the GD/Electronics-developed TAR system which allows aircraft to fly ground-hugging missions, manually or automatically, at altitudes under 400 feet. The terrain-following radar system warns of obstacles ahead, regardless of visibility.

Other GD/Electronics men at the meeting included J. W. Colvin, manager of plans and programs; P. B. Johnson, manager of communication, who supervised the GD/E exhibit; R. D. Childs, requirements representative; J. M. Green, engineering development technician, who provided maintenance on the display.

J. R. Dempsey Honored By Rocket Society

General Dynamics/Astronautics President J. R. Dempsey has been elected a Fellow of the American Rocket Society. The honor was accorded at the Society convention in Los Angeles last week.

The award is made for "valuable and important engineering or scientific contributions in or related to rocketry or astronautics and for those who have attained national distinction in their field."

All-Dynamics Committee Created To Push Value Control Activities

A General Dynamics Value Control Committee to promote value control activities in all General Dynamics divisions and subsidiaries has been established under chairmanship of E. W. Feddersen, GD director of manufacturing engineering.

Representatives from six divisions and Canadair Limited met at GD/Convair Nov. 12-13 to draw up organizational plans and lay down ground rules. Each division will name a permanent delegate and periodic meetings will be scheduled several times a year, at different divisions.

At the first session were H. P. Williams, GD/Convair value control manager; E. D. Heller, GD/Pomona value control coordinator; M. M. Reeder, GD/Electronics-San Diego, value control coordinator; W. B. Roberson, GD/Fort Worth chief of project industrial engineering; J. A. Brackley, supervisor of value analysis at GD/Astronautics; A. S. Ross, manager of manufacturing engineering at GD/Electronics - Rochester; W. W. McKenzie, chief design engineer - design services at Canadair Limited; and Feddersen.

General purpose of the Value Control Committee is to promote the universal acceptance and application of value control in GD.

"Specifically, the committee will further the disciplines of value engineering by establishing cost targets; using new training systems and devices, measurements of program effectiveness, and mathematical methods of cost estimating," he continued. "In addition, we will endeavor to achieve a standardization to reduce duplication of efforts within the Corporation," Feddersen said.

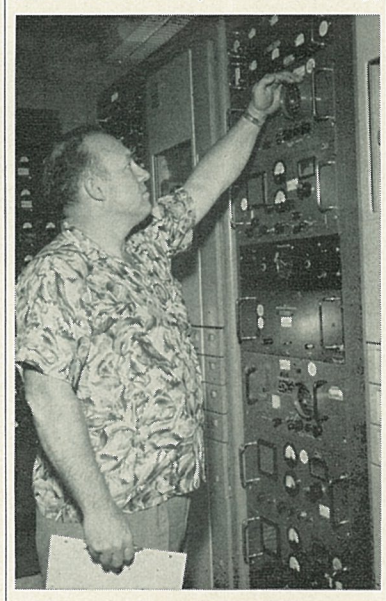
Enthusiasm was so high at the initial meeting that a second session will be scheduled soon after the first of the year.



GROUNDWORK—Meeting to form General Dynamics Value Control Committee, organized this month at San Diego, are (from left) E. D. Heller, GD/Pomona; W. W. McKenzie, Canadair Limited; W. B. Roberson, GD/Fort Worth; M. M. Reeder, GD/Electronics, San Diego; E. W. Feddersen, GD director of manufacturing engineering; J. A. Brackley, GD/Astro; A. S. Ross, GD/Electronics, Rochester; H. P. Williams, GD/Convair.

NOTS SEMINAR HEARS SCHROEDER

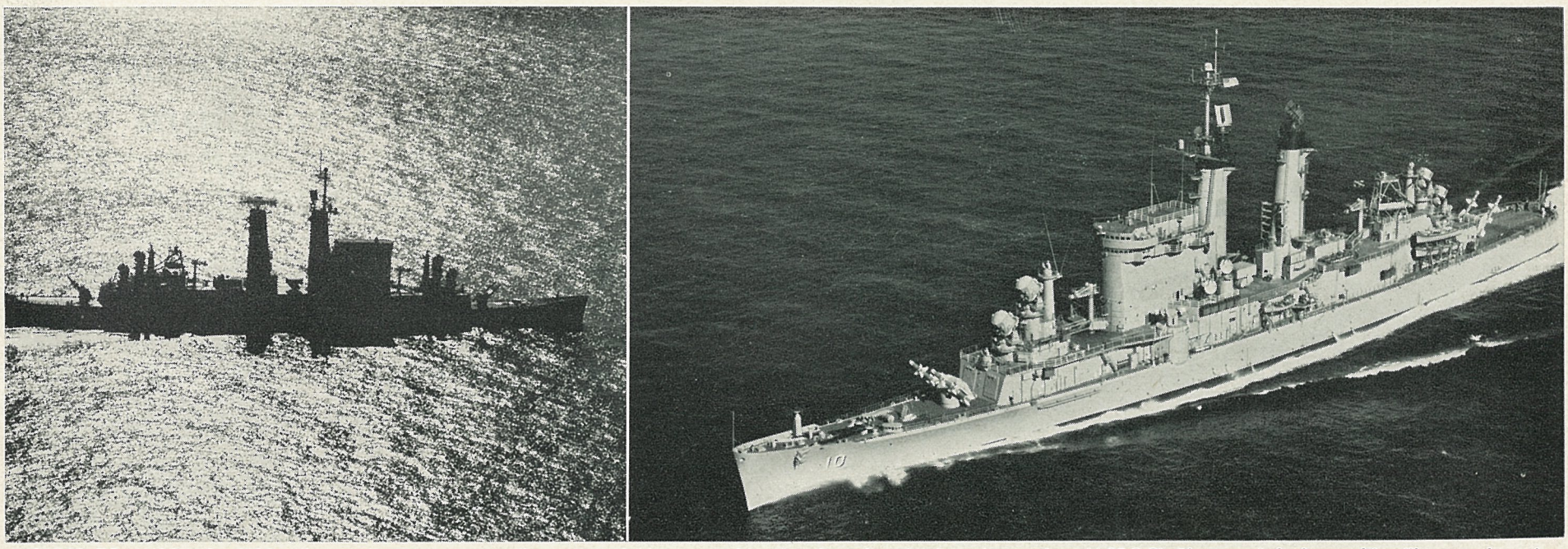
B. P. Schroeder, General Dynamics/Pomona chief of educational services, spoke at a value engineering seminar Oct. 31 at U. S. Naval Ordnance Test Station, China Lake, Calif. Subject of his talk was "Value Engineering in Manufacture of Military Equipment."



ON SHORE — Harvey Brown, GD/Convair engineering development technician, scans panadaptor in engineering data station during signal transmittal.



ON STATION—GD/Convair instrumentation engineers, Jack Heming, Warren Hoover, Gene Wilson, check equipment aboard orange LCP moored off San Diego's Mission Beach as test bed in oceanographic studies. La Jolla coastline in background.



GUNS TO MISSILES—USS Albany, first conventionally powered Navy warship to have all guns replaced by missiles, is shown under way during sea trials. Armament includes GD/Pomona-built Tartar missiles amidship, Talos missiles fore and aft and anti-submarine rockets (ASROC). Photo at left shows ship silhouetted against sun. Albany's sister ship, USS Columbus (CG-12) is also undergoing missile conversion, will be commissioned Dec. 1.—U. S. Navy photos.

GD/Pomona Activates New Ultra-Clean Room

A revolutionary new clean room to process delicate and intricate instruments was placed in operation at General Dynamics / Pomona last month.

"Tests show the new clean room is 200 times cleaner than the conventional hospital surgical room," says L. T. Flinn, test engineer (Dept. 6).

A class 2 (military standards rating) clean room was specified in plans. A class 4 room was considered an impossibility for the size needed — about 600 square feet.

"Results of an independent dust - counting analysis, using electronic - optical equipment, proved amazing—at least four times better than Class 4. It is a major breakthrough in the area of clean rooms for industry and surgical rooms for hospitals," Flinn stated.

The room is so free of dust particles that measuring devices have been taxed to their limits and a change in military specifications may be required. Not only is the room drastically cleaner than earlier types but it is also less expensive to install and maintain.

The extreme cleanliness is attributed to a new concept for clean rooms. Rather than blowing down from the ceiling and causing turbulence that tends to keep dust particles airborne, the air drifts through the room in a laminar flow from one end to the other. This flow literally washes away dust particles generated by technicians working in the room.

Clean air enters the room through an entire wall of absolute type filters at one end and leaves the room through a wall of return air registers at the opposite end.

The clean air handling system is manufactured by Agnew-Higgins, Inc., of Stanton, Calif., which already is working on application of the principle for surgical rooms.

The flow rate of clean air passing through the room is about one mile per hour—barely perceptible to persons standing in the room. Temperature (70°) and relative humidity (less than 50%) within the room are controlled by thermostats and humidistats.

Because of the laminar flow pattern of the air movement, there are relatively few areas where dust particles tend to accumulate, compared to conventional clean rooms. And most important the dust particles are gently swept away by the air movement rather than agitated by conventional clean room blowers.

There are 100 air changes per minute for any one foot of lineal space in the room—an even flow of air without turbulence in the working area 17 feet wide, 35 feet long and 8.5 feet high.

There are a minimum of obstructions to upset the steady flow of air. Open shelves are used for storage; benches are plain slab type with formica tops and pedestal legs.

Storage cabinets are housed in a smaller anteroom in which the engineers and technicians change into special clean room garments.

Work clothes consist of dacron coveralls, "booties" and surgical type hats—all certified clean and regularly changed. The space through which the instruments are passed into the room has doors on each side and is pressurized so that the air flows into the anteroom and not into the clean room.

No pencils are permitted in the room—just ballpoint pens—and only lint-free paper is used for recording data. No smoking is allowed and personnel traffic is held to a minimum.

There is never any wiping off or blowing off of dust particles from instruments or work benches. Eight vacuum outlets have been provided at convenient locations in the room for additional "dust free" protection.

Costly accessories such as air showers and shoe cleaners are unnecessary since dust from any source is continually carried out of the room. Operating costs are substantially lower because the room can be shut down when not in use. Even the special clothing is not vital.

Tests indicate the eight filters have a cleanliness efficiency of up to 99.97 per cent on particles of .3 microns in size. And a micron is equal to only 40-millionths of an inch!

'Close Air Support' Article Published

An article on "Close Air Support" by N. R. MacIntyre, GD/Convair engineer, appeared in the November-December issue of Ordnance, publication of the American Ordnance Association.

It deals with a proposed concept of a weapon system framed around small military craft, now under investigation by GD/Convair engineers.

"Still" Cleans Used Solvents

General Dynamics/Astronautics makes missiles—not "moonshine"—but employees of processing (Dept. 733) at San Diego are mighty proud of their new still!

The department's clean room facility uses about 10 gallons of freon solvent each day, cleaning missile and support equipment components.

"New freon solvent costs $9 to $10 per gallon," explained M. M. Goodhart, general foreman. "With the still, we can purify used solvent by redistillation and use it over again."

J. G. Morones, production engineering (Dept. 480) methods engineer, was instrumental in installing the still. He has estimated that use of the device will save GD/Astro over $23,000 annually by reclaiming freon solvent alone.

"Expanded operations may save up to $50,000 per year," he said.



MOONSHINER?—R. J. Franczak sets up operation of new still added in GD/Astro clean room. "Revenoors" aren't interested, however. Still reclaims used freon solvent to save some $23,000 per year.

New Guided Missile Cruiser, Tartar Armed, to Join Fleet

USS Columbus (CG-12), new guided missile cruiser, will join the U. S. Fleet following traditional commissioning ceremonies at Puget Sound Naval Shipyard Dec. 1.

The Columbus is the second heavy cruiser to be completely converted to guided missiles. A sister ship, USS Albany, was commissioned Nov. 3 at Boston Naval Shipyard.

General Dynamics/Pomona-built Tartar missiles provide secondary armament for the Columbus. Talos missiles are the main battery and the ship is also equipped with anti-submarine rockets (ASROC).

G. E. Sylvester, vice president—operations, will represent General Dynamics Corporation at the Dec. 1 ceremonies. He will present a set of quarterdeck markers—scale models of Tartar missiles—to the Columbus on behalf of General Dynamics/Pomona.

When Columbus joins the fleet, the Navy will have a total of 36 ships armed with Advanced Terrier and Tartar missiles built by General Dynamics/Pomona.

Columbus (CG-12) was built as a heavy cruiser (CA-74) by Bethlehem Steel Company of Quincy, Mass. Her keel was laid June 28, 1943, and she was placed in commission June 8, 1945.

After service with both the Seventh and Sixth Fleets, the hull classification and number of Columbus were changed to CG-12, effective Nov. 30, 1959.

Three ships of the U. S. Navy have been named Columbus. The first two were named for Christopher Columbus, while the present Columbus is named for the city of Columbus, Ohio.

The first Columbus was purchased by the Continental Congress in 1775. Her original complement was 220 officers and men, including 60 Marines. The ship was armed with 24 guns and saw action during the Revolutionary War, capturing five prizes.

Difficulties in procuring equipment and men kept her in port most of 1777 and 1778. On April 1, 1778, she was chased ashore on Point Judith, R. I., by a British squadron and burned by her crew to prevent capture.

The second Columbus, a ship-of-the-line, was built by Washington Navy Yard and commissioned Nov. 29, 1819. The ship was 191 feet in length and had a complement of 780 officers and men.

On June 4, 1845, Columbus, then flagship of Commodore James Biddle, departed New York for the Far East. She was at Canton, China, on Dec. 31, 1845, when Commodore Biddle exchanged ratified copies of the first American commercial treaty with China. In April, 1846, Columbus sailed for Japan, arriving at Yedo (Tokyo) Bay July 19, in an attempt to open Japan to American commerce. Although this attempt was unsuccessful, it helped pave the way for the Perry Mission eight years later.

The second Columbus was laid up in ordinary at the Navy Yards, Norfolk, Va., and burned there April 20, 1861, to prevent her falling into the hands of the Confederates when the yard was evacuated by Union forces.

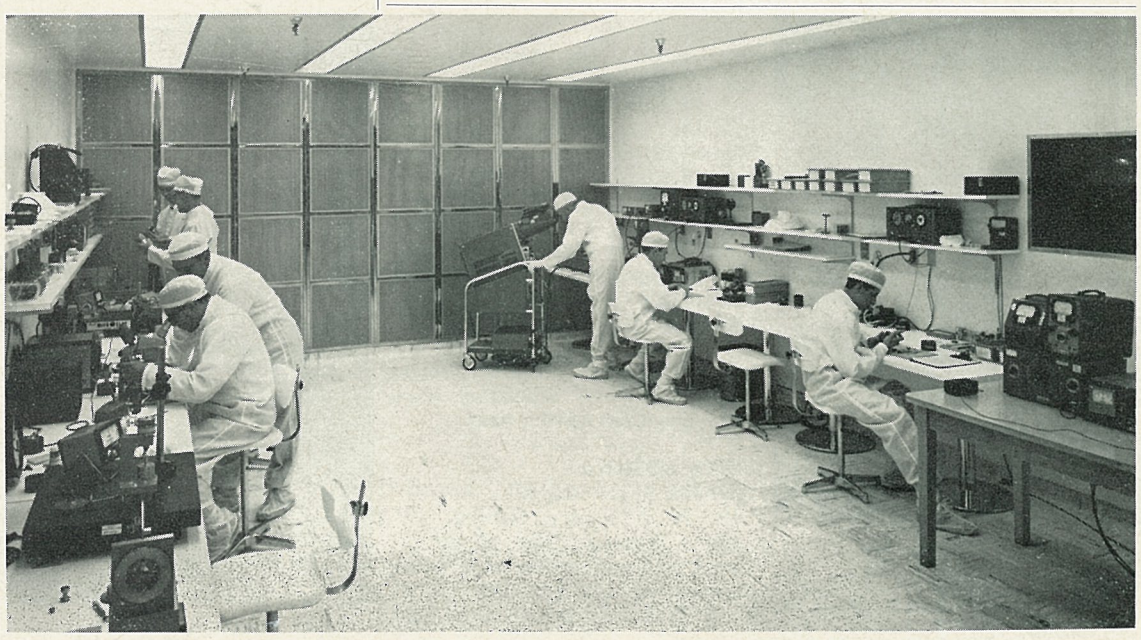
SAC Takes Over 12 More Atlas Sites at Dyess

DYESS AFB — Twelve Atlas "F" launch complexes and their service facilities were declared operational here Nov. 7 by the Strategic Air Command.

Which means that in less than two months, base activation forces from General Dynamics/Astronautics and associate contractors have completed and delivered 48 launch complexes, plus support facilities.

Schilling AFB facilities were delivered Sept. 13; Lincoln AFB units on Oct. 1; those at Altus AFB on Oct. 15; and those here at Dyess Nov. 8. Nearing completion are additional facilities at Walker AFB, N. M., and Plattsburgh AFB, N. Y.

No formal ceremonies were held here. Col. H. B. Manson, SATAF commander, passed along the facilities to Brig. Gen. W. W. Wisman, commander of the Strategic Air Command's 819th Strategic Aerospace Division. He, in turn, ordered members of the 578th Strategic Missile Squadron, commanded by Col. R. N. Cole, to take over on an operational basis. Complexes here are a part of the 15th Air Force, commanded by Lt. Gen. Archie J. Old Jr.



CLEANEST—General Dynamics/Pomona's new clean room is taxing capabilities of measuring devices to properly evaluate new facility. Room, placed in operation last month, is "200 times cleaner than conventional hospital surgical room."

Save Material—Don't Throw Your Job Away!

Lewis Research Center Given Responsibility for Centaur

National Aeronautics and Space Administration last month shifted project responsibility for General Dynamics/Astronautics' Centaur launch vehicle from the Marshall Space Flight Center, Huntsville, Ala., to NASA's Lewis Research Center, Cleveland, Ohio.

For two decades the nation's principal researcher for propulsion techniques, Lewis Center currently is engaged in extensive space technology efforts.

Recently, the center reorganized its scientific structure to embrace both research and development.

Teaming the Lewis Center and GD/Astro brings together two organizations that have pioneered in the development of liquid hydrogen and its application to launch vehicles. Lewis Center began hydrogen studies in 1950 and as early as 1953 test-fired a 5,000-lb.-thrust hydrogen engine. Centaur is the first launch vehicle slated to be powered by liquid hydrogen.

Organized in 1941-42, Lewis Center has long been regarded as the nation's most experienced facility for studies concerning aeronautics, nuclear, electrical and chemical power sources, as well as advanced ideas involving thermal and solar conversion systems.

While propulsion work continues, Lewis Center has been called upon to devote increasingly larger efforts to work associated with space technology. Its contributions in this field have been outstanding.

For instance, Project Mercury drew heavily on Lewis for help in design of solid fuel rockets and the rocket escape system used on Mercury spacecraft. Too, it designed, built and operated a unique "multiaxis test facility" to train astronauts in capsule control during tumbling periods.

Lewis Center provided information toward design of a 1.5-million-pound thrust engine for the Saturn vehicle, as well as other information related to "high energy" upper stages for this vehicle and other interplanetary probes like Centaur.

Nuclear development at Lewis helped perfect propellant system dynamics and nuclear engine components for Project Rover.

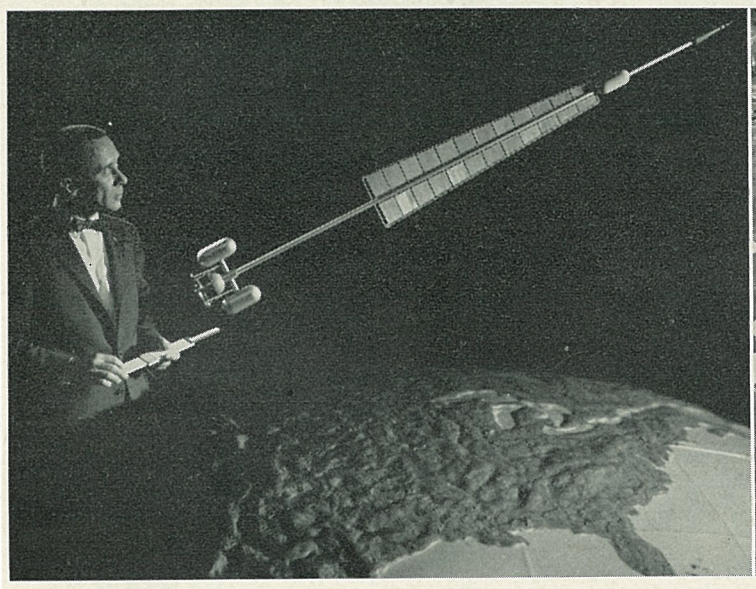
Among current programs are many related to Project Apollo. They include such investigations as zero gravity effects on propellant handling, meteoroid protection for tank structures, materials at cryogenic temperatures, propulsion system control, thrust chambers, nozzles and auxiliary power systems.

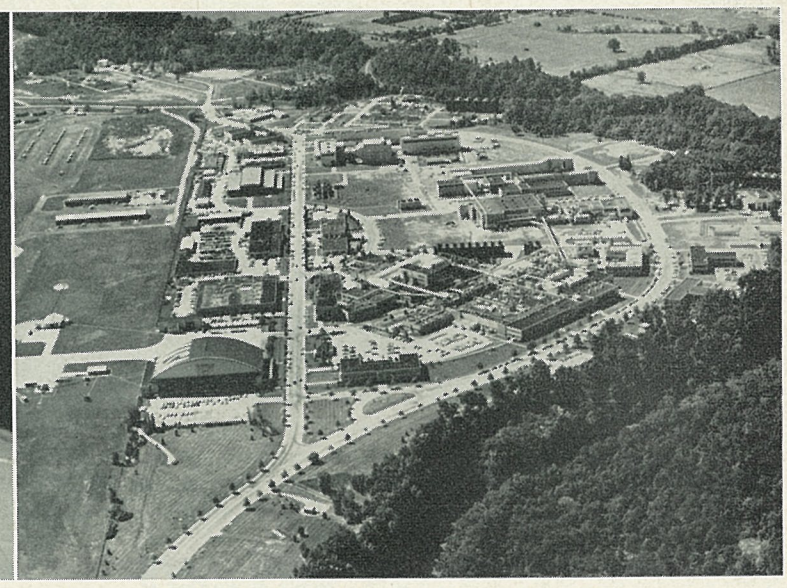
Employment at Lewis Center now exceeds 3,000, of which almost half are scientists and engineers.

The main Lewis Center laboratories are located on a 350-acre tract adjacent to Cleveland Hopkins Airport. At nearby Sandusky is the Plum Brook research station, a principal rocket test site and location of a full-scale nuclear research reactor.

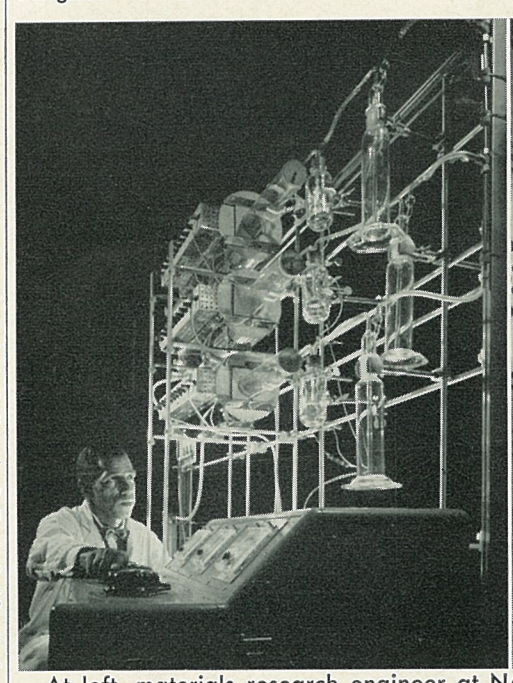
Lewis Center is currently in the midst of an extensive expansion program. Expected during fiscal 1963 is a $40-million construction program at Plum Brook to add nuclear rocket dynamics and hydrogen heat transfer facilities. A $4.7-million development engineering building is planned for the main center.

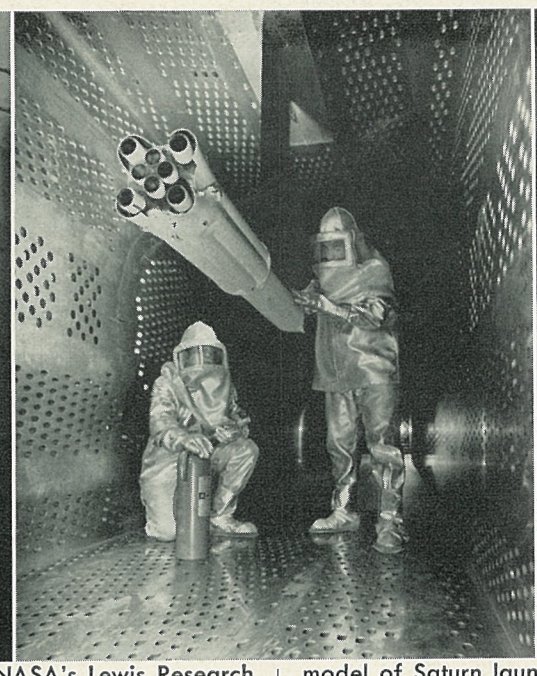
Of particular interest in the Plum Brook future is the proposed Space Propulsion Facility, part of the 1963 expansion. This will include a giant "space tank" capable of maintaining liquid hydrogen (minus 423°F) for two weeks to test engines, their ignition, control and restart capabilities under simulated space conditions (190 miles high). Or under less rigorous conditions, the tank could operate for 90 days and perform tests like "cold soak"—testing components after extended exposure to extreme environment.

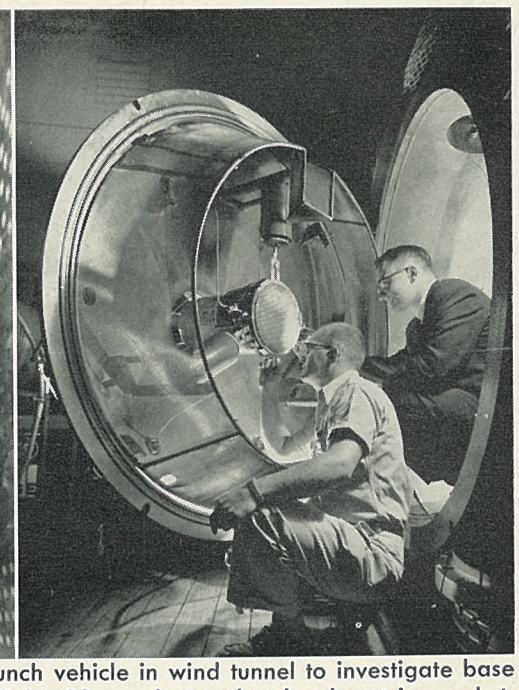




RESEARCH CENTER—Program responsibility for General Dynamics/Astronautics' Centaur launch vehicle recently was reassigned to NASA's Lewis Research Center, Cleveland, Ohio. Above right is air view of Center, located on 350-acre tract adjoining Cleveland Hopkins Airport. At left, striking photo shows Lewis' Electric Space Vehicle Model for Mars expedition.







At left, materials research engineer at NASA's Lewis Research Center operates "metallic whisker growth facility," part of research effort in space technology. Center: technicians check out model of Saturn launch vehicle in wind tunnel to investigate base heating problems. Right: 20 cm electron-bombardment ion rocket. Center has vast experience in aerospace propulsion techniques.

Wilson Heads GD/E Rochester As Gen. Manager

Richard A. Wilson, veteran of more than 30 years in the electronics industry, has been appointed vice president and general manager of General Dynamics/Electronics-Rochester, Charles F. Horne, president, announced this month.



Richard Wilson

Wilson's professional career has been devoted to organization and direction of research and development oriented companies.

He joins General Dynamics from General Mills, Inc., where he has served as vice president of that company's electronics group since 1959. He was responsible for establishing General Mills Electronics Group, an organization which employs more than 3,000 with major facilities in five localities.

Before that, he had been vice president of Daystrom, Inc., N. J., Magnavox Co., and vice president and director of Muzak Corp., N. Y.

After studying electrical engineering at Lowell Institute, Massachusetts Institute of Technology, Wilson began his electronics career in 1928 with Westinghouse. He later moved to RCA.



"FLYING" HIGH—Two new General Dynamics Corporation vice presidents, Edward H. Heinemann (engineering), seated, and Howard L. Richardson (Corporate planning), right, and Roger Lewis, General Dynamics president, third from right, were recent visitors to GD/Astronautics. Heinemann tries out "orbital vehicle rendezvous simulation unit" in computer lab. Astro men shown, from left, are President J. R. Dempsey, R. D. Horwitz, computer labs, and W. H. Patterson, vice president, advanced product planning.

Blood Donations For Girl Sought

Gwen Loya (Dept. 101-1) of GD/Astro is seeking volunteer blood donors, especially those with rare blood types, prior to time for open heart surgery for her daughter Theresa, 2, set for mid-January.

As an Astro employee, Gwen is entitled to a maximum use of blood on credit for Astro at the San Diego Blood Bank (this is donated by employees during bloodmobile visits to Astro. However, due to the nature of the surgery additional blood will be needed.

Theresa has type A-B negative blood, extremely rare. Donors may pledge either rare blood or the more common type to replace that required for Theresa.

Call Gwen at ext. 3647 or at home, 278-0859 after 5 p.m.

NASA Chief Speaker At Quality Meeting

Howard M. Weiss, chief of quality assurance, NASA Headquarters, was speaker at a General Dynamics/Astronautics-sponsored meeting of San Diego section, American Society for Quality Control, last week.

In a session moderated by P. I. Harr, GD/Astro director of reliability control, Weiss addressed more than 300 local chapter members and guests.

His remarks centered on NASA quality requirements for space system contractors, detailing features of quality system planning, subcontract requirements, quality verification and failure analysis.

Salvage Yards Set Another Schedule

Salvage yard schedule:
GD/Convair—Nov. 24, Dec. 8.
GD/Astro—Dec. 1, 15.

Smaldino Winner Of Cruiser Drawing

John Smaldino of GD/Astro hit the jackpot when his lucky ticket was drawn, winning him the CRA 25-ft. cabin cruiser.

Lucky number was 1876 at the drawing held at the Nov. 5 CRA Council meeting, announced J. K. Field of GD/Convair employee services.

Smaldino, whose hobbies are fishing and skin diving, intends to keep the outfitted cruiser, valued at over $9,000. He now has the boat moored at Mission Bay Sportfishing landing.

He is located in Bldg. 51, Plant 1, with Astro Dept. 322-5, support publications.

Navy Reserve Pay Billets Available

Naval Reserve pay billets in Ship Supply Officer Division 11-2 at San Diego are now available for reserve Supply Corps officers in the rank of lieutenant and below, according to Lt. Cmdr. Bill Potts, division administrative officer.

Experience in shipboard supply or fleet support is desirable but not required. More information is available from Potts, GD/Astro ext. 1210, or Lt. Ralph Grant, ext. 1741.

Program Chapter Installs Officers

First annual installation of new officers for the San Diego Chapter of National Society for Programmed Instruction will be held next week, Nov. 29, at Miyako Restaurant, 2137 Pacific Highway.

Cocktail hour will be from 6:30 to 7:30 p.m., followed by dinner and installation ceremonies.

Members and their guests may make reservations at $3.50 each before this Friday (Nov. 23) by contacting J. D. Meacham, ext. 2249, GD/Convair Plant 1.







AT THE SHOW—In center photo are Charles Lewis, ARA club president, Phyllis Files, club secretary, and Mrs. Arnold Carroll with winners in CRA-ARA Flower Show. In photo at right are CRA Commissioner E. L. Zimmerman, Stella Dennis of GD/Convair, C. H. Splinter of GD/Astro, LeVonne Splinter of GD/Convair, and Dennis Zimmerman. Photo at left: Janice Zimmerman, 12, Sherril Files, 8, with winning entries. Fall show attracted total of 196 displays from Garden Club members; drew hundreds of spectators.

GD/Astro, GD/Convair Gardeners Share Honors in Flower Show

GD/Astro and GD/Convair exhibitors shared honors with their prize-winning blooms in the Nov. 4 joint CRA-ARA annual Fall Flower Show which drew hundreds of spectators to the Floral Association Bldg. in Balboa Park.

Garden club members from both divisions entered a total of 196 displays.

Best of show awards, and turkeys were evenly divided between Astro and Convair entries with CRA Commissioner E. L. Zimmerman taking top prize for his one-bloom large chrysanthemum. Stella Dennis of GD/Convair Dept. 401 swept the field with her three-bloom large chrysanthemum in her first display in any flower show.

LeVonne Splinter, GD/Convair Dept. 2, won best of show for her pompon chrysanthemum; C. H. Splinter, GD/Astro Dept. 759, for a button mum entry. Dennis Zimmerman, 17, was best of show in arrangements with his unique display of a horse-drawn cart filled with succulents, palms, and red berries.

Jean Henderson, wife of ARA Commissioner Everett Henderson, was best of show in corsage division; C. J. Lewis of GD/Astro Dept. 250 and ARA club president, best of show in roses. Sherril Files, 8-year-old daughter of Phyllis Files of GD/Astro Dept. 951-3, topped the children's division.

Judging chrysanthemums were James Kirk, Sam Middleton, Al O'Blennes. Kirk, O'Blennes, and Mrs. Jean Kenneally judged roses. Judging arrangements, corsages, and children's entries were Mrs. Kenneally, Mrs. Middleton, and Mrs. Kirk.

Other winners were: Chrysanthemums, single bloom, large—E. L. Zimmerman, GD/Convair Dept. 401-5, white; H. S. Boyd, GD/Convair Dept. 31, pink; Mr. and Mrs. A. W. Carroll, GD/Astro Dept. 141-2, red and bronze or orange; Zimmerman, yellow; Stella Dennis, GD/Convair 401, lavender or purple.

Three blooms, large — Zimmerman, white; Stella Dennis, pink, red, bronze or orange, lavender or purple; Dennis Zimmerman, yellow.

Cushion-type poms, three stems—LeVonne Splinter, GD/Convair Dept. 2, white, yellow; Mrs. F. A. Cary, GD/Convair Dept. 14-0, pink; C. H. Splinter, GD/Astro Dept. 759, bronze or orange; Phyllis Files, GD/Astro Dept. 951-3, red, lavender or purple.

Daisy-type poms, three stems—Splinter, red, yellow; LeVonne Splinter, bronze or orange; Phyllis Files, lavender or purple.

Button mums — one stem and three stems—LeVonne Splinter.

Roses—C. J. Lewis, GD/Astro Dept. 250, red, pink, white, orange; Margaret Boyd, yellow; Mrs. C. J. Lewis, Charlotte Armstrong; Mrs. A. W. Carroll, Peace rose.

Arrangements — Mrs. Carroll, miniature; Alberta Marvin, GD/Convair Dept. 220, small; Dennis Zimmerman, medium; Mrs. R. Cox, husband in GD/Astro Dept. 603, large; Harold Inman, GD/Convair Dept. 171, dry under 18-in. tall; Mrs. Carroll, dry over 18-in.

Corsages—Jean Henderson, orchids; D. McMillen, GD/Astro Dept. 144-2, chrysanthemums.

Children — Sherril Files, 5-11 years; Janice Zimmerman, 12-16 years.

Ice Skating Club Session Delayed

Because of the holiday, the joint ARA-CRA Ice Skating Club session will not be held tomorrow (Nov. 22).

At least two families, however, will have occasion to think of their club, as they dine on turkeys given as door prizes at the previous meeting.

The group's next scheduled activity will be Sunday (Nov. 25) with a field trip to Glacier Falls (Disneyland) for skating, 9 to 11:45 a.m. The rink will also be open to "dancers," 7 to 9 a.m.

Special discount tickets are available from ARA Commissioner Bud Davies, GD/Astro ext. 4041.

Davies has also announced plans to visit home ice hockey games of the Los Angeles Blades.

Clayton Breaks Fifty Straight

Sixty trapshooters vied for turkeys at CRA-ARA Gun Club's annual holiday shoot Nov. 4 at Gillespie Field Range.

George Clayton of GD/Convair was the only competitor to shoot 50 straight for high score and one of the Thanksgiving birds, said CRA Commissioner Jack Swank.

The other turkeys went to John Puhr of GD/Astro, Joe Vidovich of GD/Convair, and Kenny Faught, whose wife is at GD/Convair. The Lewis system was used in deciding prize winners.

Bob Beckett was the lucky winner of the turkey drawing for skeet and rifle shooters at the match.

Gunsmen will meet for their regular monthly shoot Sunday (Dec. 2) at the CRA range.

Archers Entering Annual Industrial Recreation Shoot

Archers from GD/Convair, GD/Electronics, and GD/Astro will take part in the annual Industrial Recreation Council archery tournament set for Sunday, Dec. 9.

Everyone intending to compete must register at employee services outlets by Dec. 3, said CRA Commissioner Al Phipps and ARA Commissioner Al Stone, in charge of tourney arrangements.

The Double American target shoot will start at 10 a.m. on the Morley Field Archery Range in Balboa Park. Scoring will be on a handicap basis.

First-place winner will receive a turkey; second-place, a chicken; and third-place, bacon. Trophies will go to winners in junior, intermediate, and amateur classes.

Bridge Lesson Series In Planning Stages

A series of bridge lessons for both beginning and advanced players is now in the planning stage, and will get under way in the near future, according to Art Saastad, ARA commissioner.

Good attendance at ARA Bridge Club's most recent meeting made two sections of play possible and also permitted eight full Master Point awards.

Winners were Bernie Anderson, Bruce Beach, Pat Devore, H. R. McCullough, Jim Moody, Leon Resnick, Saastad and Norma Tuttle. Winning Thanksgiving turkeys were Jack Christian and Wayne Evans.

The club now has 20 books on bridge available for loan.

Buy One Chargers Ticket And Kids Get in Free

"Family rates" for GD/Astro and GD/Convair folk will apply to tickets for remaining San Diego Chargers home games.

An employee buying one or more tickets for $3.50 each, will be given, without charge, tickets for all members of his family under the age of 16. All seats are reserved, and families will be seated together.

The Chargers play the the Oakland Raiders at Balboa Stadium Dec. 2, and meet the Boston Patriots Dec. 9.

Sons Will Play In Grid Benefit

One GD/Astronautics coach and probably a score or more of General Dynamics sons will be involved Nov. 24 when the first annual Heartland Pop Warner Football Benefit for Cerebral Palsy comes off at Las Mesa.

J. R. Rogers of Astro's Dept. 830 is coach of the La Mesa Pee Wee eleven that will meet El Paso in a game for 9-12 year-olds. Other games will pit the 10-14-year El Cajon Midgets against Fresno and the Lemon Grove Junior Bantams against Las Vegas in the 11-15 age brackets. In addition to age, weight plays a factor in league groupings.

Game time is 12:30 p.m. at Helix Hi Stadium.

In addition to the three championship games, entertainment will include stars such as Jerry Lewis, beauty queens, bands and sports figures.

Tickets will be available at the game or through Rogers at ext. 2023, Plant 2.

Lee Hanning (Dept. 810) and Harry Buckner (Dept. 101) are members of a special committee planning the event, while Ray Blair of Dept. 122 will be public address announcer.

Best Ball Tourney Ahead For Golfers

ARA will conduct a one-day best ball golf tournament at Circle "R" Sunday, Dec. 9, with starting times now available from ARA headquarters, ext. 1111.

Merchandise awards will be given in four events: two-man team net best ball, two-man team Calcutta (optional), driving contest, and close-to-pin contest.

Fee of $1.50 per person will be collected on tee for the best ball events. An additional 50 cent charge will be made for each Calcutta team.

Additional information is available from Dick Tobias, ARA commissioner, Plant 1 ext. 1707.

Best Prints, Slides To Be Chosen For '62

Judging to determine the best print and slide of 1962 will be conducted at a meeting of Astro Lens, ARA camera club, at 7:30 p.m., Dec. 2, in Photo Arts Bldg., Balboa Park.

All prints and slides placing in club contests during the year are eligible for the final judging.

Election of 1963 club officers will follow the contest.

At Convair, tickets will be available from 11 a.m. until 1:15 p.m., Nov. 26 (Monday) and Dec. 7 (Friday), and from 3:30 p.m. until 5:30 p.m., Nov. 30 (Friday) and Dec. 3 (Monday).

A mobile ticket-selling trailer will be stationed adjacent to the cafeteria near Overpass 1 for noon hour sales and will be at the parking lot near Overpass 2 for 3:30 and 5:30 p.m. sales.

Astronautics ticket sales will be from 11 a.m. to 1:15 p.m., Nov. 30 and Dec. 3, and from 3:30 to 5:30 p.m., Nov. 26 and Dec. 7, at employee services.

Employees at outlying points may obtain ticket application forms from employee services outlets.

Mgt. Club Schedules Annual Tournament

Members of General Dynamics/Astronautics Management Club will gather at Rancho Bernardo Country Club Dec. 16 for the third annual club golf championship tournament.

Prospective foursomes should be listed on a flyer now being distributed to all club members. The flyer should be returned to A. C. King, Dept. 641-10.

King will assign starting times from 7 a.m., on a first-come, first-served basis. Greens fees are $4.25, of which 50 cents will be used for additional prizes.

Music Fans Invited To Movie Showing

A motion picture of interest to all music enthusiasts will be shown under sponsorship of ARA Hi-Fi/Music Club at 7:30 p.m., Nov. 27 and 28 in ARA Clubhouse.

Featured will be "Tonight We Sing," the story of impresario Sol Huroc, which includes performances by Ezio Pinza, Roberta Peters, Tamara Toumanova and Isaac Stern.

Bargain admission is 50 cents per person. The showings are open to all General Dynamics employees and their families.

.308 Deer Rifle Drawing Prize

Big game hunters have only a couple of weeks to enter their kills in the annual "Big Game" drawing.

First prize will be a Remington .308 deer rifle with other prizes covering a wide variety of hunting equipment, said CRA Commissioner Jack Swank.

Lucky winners will be decided at the regular Gun Club meeting Tuesday (Dec. 11) at Gillespie Field Clubhouse.

Until that date, GD/Convair, GD/Electronics, and GD/Astro nimrods may list their big animal bags at employee services at each division. So far, 60 entries have been registered.

Lake Elsinore Scene of Meet

Model enthusiasts gathering at the second annual Tri-Club Free Flight Model Plane meet hosted at Lake Elsinore Oct. 28 by GD/Convair Aeromodelers, GD/Astro Modelers, and San Diego Orbiteers were greeted by beautiful, warm, thermal soaring air.

Over 70 entries from San Diego and Los Angeles areas flew in 6 events for 18 trophies.

Many contestants, notably from Los Angeles, commented on the smooth and efficient way the meet was run. ARA and CRA provided the chase truck, processing tables and chairs, public address system, and stop watches. Everycne in the three host clubs pitched in to help process and time models.

General Dynamics winners included Bob Petro of GD/Astro, first in the Nordic glider event with a total time of over 13 minutes out of a possible 15. Nat Antonioli of GD/Convair was third in the same event.

Roland Dexter of General Atomic was first in the rubber-powered event and GD/Astro's Bob Davis placed in the gas-powered event.

CRA Aeromodelers now are laying plans for their February annual scale meet. Anyone interested is urged to contact Don Larsen, ext. 2289, or Larry Peterson, ext. 1477, both Plant 1.

Home Decorations Subject For Wives

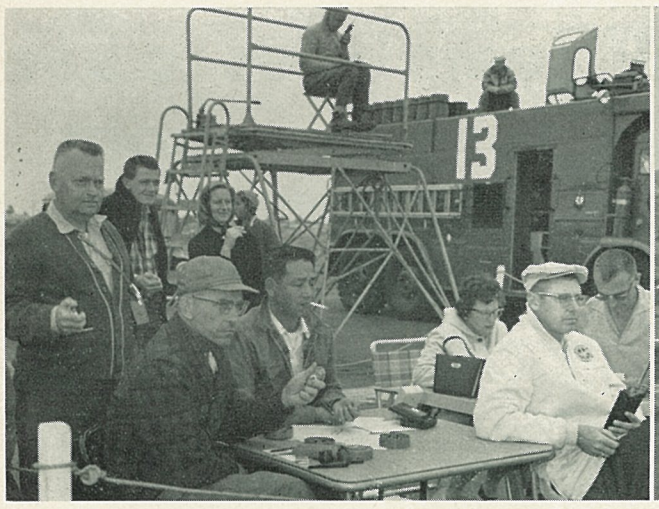
Personalized home decorating will set the theme for a special meeting of Astro Wives' Auxiliary at 10 a.m., Nov. 28 in ARA Clubhouse.

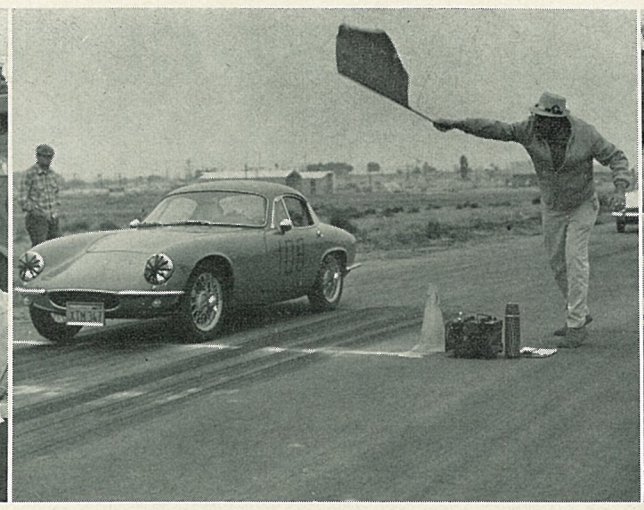
Speaker will be Blanche Brown of Barker Bros., whose topic will be "Decorating to the Personality of the Lady of the House." A question and answer period will follow.

The session will conclude with a potluck luncheon. Those attending have been asked to bring a covered dish plus their own table service.



QUALIFIED—Matthew A. Unwin, latest to complete GD/Convair's four-year apprenticeship program, displays journeyman's certificate and pin awarded last month by E. H. Damarus, chief tool engineer. Unwin was 1961 winner of SD tool and die contest.







SERIOUS BUSINESS—"Field Day" for sports drivers Nov. 4 was big draw. At left Harold Ledington (GD/Convair), Jim Carlson (GD/Astro), standing; Jim Hamill (GD/E) and Gim Hom (GD/Astro), seated, check time trials. Others include Mr. and Mrs. Al Oehler and Marion Mayall (GD/Convair) while on tower is Hugo Mohrlock. Center photo: Dick Perkis flags car driven by W. J. Stinson. Photo at right: Charlie Mohr and B. F. Ferguson inspect Alex Liggett's car.—Photos by Howard Harvey.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

★ ★ ★

AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. to 1 p.m., Clairemont Mesa flying site.

ARCHERY — Beginners instruction Nov. 24, Dec. 1, 10 a.m.-noon, Morley Field Archery Range. IRC tournament Dec. 9, 10 a.m., Morley Field Range.

BASKETBALL—League games Nov. 27, Muni Gym, Balboa Park.

BRIDGE CLUB — General Dynamics players invited to weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts.

CAMERA CLUB—"Print and slide of year" contest Dec. 10, 7:30 p.m., Photo Arts Bldg., Balboa Park.

FENCING — Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th & C Sts.

GARDEN CLUB—Joint CRA-ARA Christmas party Dec. 5 at ARA Clubhouse, Kearny Mesa.

GOLF—Entries open Nov. 26-Dec. 6 for CRA tourney at Coronado, Dec. 15-16. Call ext. 1705, Plant 1.

GUN CLUB — Regular shoot Dec. 2, Gillespie Field Range. Big Game drawing Dec. 11, 7 p.m., Gillespie Field Clubhouse.

ICE SKATING — No skate night tomorrow (Nov. 22). Trip to Glacier Falls, Disneyland, Sunday, Nov. 25. Call Bud Davies, Astro ext. 4041.

JUDO — Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Friday, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES—Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission: adults 75 cents; children under 12, 20 cents.

PISTOL CLUB — Regular matches Dec. 9, 9:15 a.m., SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Tomorrow's meeting cancelled. Code class tonight (Nov. 21), 7 p.m., Harbor Drive headquarters.

SPORTS CAR CLUB—Regular meeting Dec. 6, 7:30 p.m., Convair executive dining room, Pacific Hwy.

WATER SKI CLUB — Weekend skiing on phone-call basis. Call Gene Sevigny, ext. 1657, or Jack Loos, ext. 2456, both Plant 1.

CRA Golfers to Play Coronado Dec. 15-16

Entries open next Monday (Nov. 26) for the coming CRA golf tournament to be played over Coronado course Dec. 15-16.

Hams will go to all winners, said Ken Wulfemeyer, CRA commissioner.

Starting times may be obtained by calling ext. 1705. Deadline date is Dec. 6.

Sports & Recreation

GD/Convair and GD/E Teams Playing in Shop Hoop League

First league games in GD/Convair's shop basketball tourney get under way next week, said CRA Commissioner Pete Beyrer.

Seven teams from both GD/Convair and GD/Electronics will kick off first-half play Nov. 27 in Muni Gym, Balboa Park. Hi-Lows meet Dept. 91; Rose Canyon takes on Electronics; Dept. 16 plays the Thirty-Niners. GD/E's team draws a bye.

All games in the "slow break" plant league will be played Tuesdays at 6:50, 7:55, 9 p.m. with spectators welcome, said Beyrer.

Official basketball rules will be used with the exclusion of the "fast break." Whenever a team makes a basket it must set up defense under the opposing team's basket before that team takes the ball over the center line. Regulation rules will be used the last two minutes of each game.

GARDENERS JOIN FOR XMAS PARTY

ARA and CRA Garden Clubs will join for a family Christmas party Dec. 5 at 7:30 p.m. in ARA Clubhouse.

CRA Commissioner E. L. Zimmerman and ARA Commissioner Everett Henderson, in charge of arrangements, promise a full evening with lots of fun, gifts, and prizes.

Everyone is asked to bring a $1 gift, suitable for himself or herself, for the gift exchange. Santa Claus will be on hand to distribute the presents and refreshments will be served.

Potted plants will go to bingo winners and nine turkeys will be given as door prizes.

The CRA group has cancelled its December meeting.

Archery Lessons For Novices Reset

CRA Archery Club has rescheduled archery lessons for beginners on the next two Saturdays, Nov. 24 and Dec. 1.

Commissioner Al Phipps urges everyone, adult or child, who wants to learn how to handle a bow and shoot a straight arrow, to turn out at the Morley Field Archery Range in Balboa Park on those dates. The range is located just off Morley Field Drive and Arizona St.

Instruction will be given from 10 a.m. until noon.

Although there is no charge for the lessons, students must supply their own equipment.

Rockhounds Schedule Annual Holiday Party

CRA Rockhounds and their families will gather for their annual Christmas party the second Thursday of next month (Dec. 13).

The holiday affair will be held in the Gillespie Field Clubhouse at 7:30 p.m.

A gift exchange will be held and Santa will put in a pre-Christmas appearance for the benefit of the children. Other entertainment during the evening will include cartoon movies, said Commissioner Dan Whorton.

Plans now are under way for a New Year's field trip to the desert. GD/Convair rock hunters will travel 165 miles from San Diego to spend the long holiday weekend at Ogilby, west of Yuma, Ariz.

Reiter Shoots 76 And Wins Turkey

Six low-scoring linksmen won turkeys for their performance in CRA's Nov. 10-11 golf tourney at Carlton Oaks Country Club, reported Commissioner Ken Wulfemeyer.

Winners were: 0-14 flight, Al Reiter (Dept. 115), first low gross, 76; George Hasti (Dept. 171), first low net, 66.

15-22 flight—Bill Whitley (Dept. 6), first low gross, 79; Hugh Wilkerson (Dept. 140), first low net, 66.

23-over—Don Bryson (Dept. 140), first low gross, 91; Hank Kobrich (Dept. 401), first low net, 66.

Lens Club to Choose Year's Best Photos

Best black and white print and best color slide of the year will be chosen at CRA Camera Club's Dec. 10 meeting, 7:30 p.m., Photo Arts Bldg. in Balboa Park.

All winners of quarterly contests throughout the last year are urged to submit their entries.

Ron Ainsworth and Al Henney were winners in the fourth quarterly judging of black and white prints, while Howard Harvey stood high in the color division. Joan Ainsworth and Cliff Dietz tied for honors.

Thurs. Radio Club Meeting Cancelled

CRA Radio Club members will stay home tomorrow to enjoy Thanksgiving Day with their families instead of gathering for their regular club meeting, reminded Commissioner Jim Lack. The usual Thursday meeting has been cancelled.

All members are urged to turn out for the next session Dec. 6 in the Harbor Drive headquarters to express their opinions on the possibility of erecting an antenna at the Pine Crest recreation site.

Field Day Draws Cars From All Over So. Cal.

CRA Sports Car Club's fourth annual "Field Day" championship event, held Nov. 4 at Rheam Field, was the largest affair ever sponsored by the GD/Convair club, drawing a total of 131 entries, reports CRA Commissioner Gerry Wright.

Drivers came from all over Southern California, from Santa Barbara to the border, to compete in the three events testing all aspects of driving skills and car performance, said Bob Chillo of GD/Convair, Dept. 6, Field Day '62 marshal. Net profits of $175 were donated to the Navy Relief Fund in appreciation for use of Navy facilities.

Of the 131 paid entries, representing all makes of sports cars, 129 actually competed with 80 successfully completing all events. A time trial course, nearly five miles long, was laid out on the Rheam Field runways. The drivers were required to run through a total of 10 turns laid out with hay bales and rubber pylons. Each car ran the course four times, twice for familiarization and twice "on the clock." Jack Hurt of GD/Convair Dept. 2 was in charge of the 20-man crew manning the course and stop watches.

A braking and acceleration test under direction of Spud Riggs (Dept. 6) saw the drivers stopping in a five-foot "garage" at the end of a quarter-mile sprint. Time was automatically measured by electric eyes controlling three stop watches.

Last event, a slalom, took the cars through a series of figure eights and reverse loops laid out with pylons. Lou Barnes, club president, of GD/Electronics Dept. 7, directed this part of the competition.

To insure safety of all contestants, every car was inspected after registration. Brakes, tires, and running gear were closely examined. Drivers wore crash helmets while competing in the time trials and seat belts were required for all events.

Since all hands were needed to direct operations, no members of the CRA group competed. However, a General Dynamics driver, ARA Commissioner E. S. Penick, took a second-place trophy in Class D, driving his Austin-Healey 100-4 "Le Mans."

Top performance of the day was chalked up by Jack Brabban of Sports Car Club of America who made best overall time of the day and topped Class A with 6:18.6 minutes. Driving his Fairthorpe Electron, a sports car just slightly larger than an Austin-Healey Sprite, Brabban's driving ability put him ahead of many larger cars on a strict time basis.

Convair Club Leads Loop

GD/Convair's entry in Industrial League baseball play stood on top of the heap after four tilts with three wins and one loss.

After dropping its first game to Oceanside Oct. 21, Convair bolstered its pitching staff with Bill Murphy who went on to pitch three winners.

In the game with Montoya Construction, Murphy struck out 19 batters to be credited with the 6-3 win. Convair ball players downed Astro the next weekend, 8-2, and went on to shave by Brawley Nov. 12, 6-5.

The plant team was due to meet National City last Sunday, Nov. 18, and has a bye this coming weekend.

Thanksgiving Birds 'Shot' in Contest

W. G. Walker and Vern Mardis "shot" their Thanksgiving birds in CRA Pistol Club competition Nov. 11.

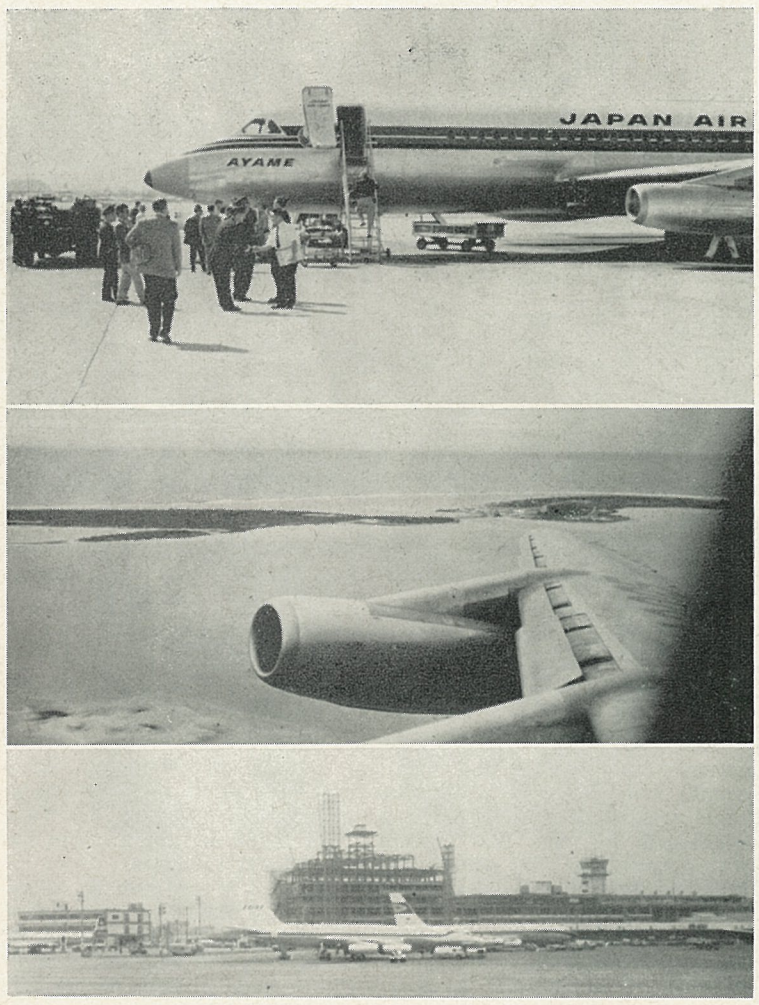
Walker (Dept. 6) scored 283 to win his turkey prize and first place in the Police Course match. Joe Williamson (Dept. 401) was runner-up with 282.

Mardis nabbed the turkey in the luck shoot and went on to take the center fire Short National Match with his high rapid fire score breaking the 265 and four bull's-eye tie with Williamson.

Third place went to Jim Halfacre (Dept. 140), 251; fourth to Ash Bishop (Dept. 401), 241.



FIRST IN LINE—Grace Gleaton of GD/Electronics Dept. 72 and J. A. Pascarella, GD/E Dept. 82 (Plant 2) buy first tickets to GD/Electronics Christmas party from Linda Brooks, Dept. 72.



HOMEWARD BOUND—At top, Japan Air Lines' fifth 880-M is snapped at San Francisco airport just before leaving stateside on its ferry flight to Tokyo home base; center shot shows chain of Hawaiian Islands in sharp detail below pod of 880-M; in lower photo is SAS-Thai International 990 silhouetted against new Tokyo air terminal now under construction.

Observer Home From Airline Survey Reports Convair Jetliners Tops

Reliability of Convair jetliners is hitting new highs after more than a year of strenuous operation with Far East lines, reports R. L. Runnalls, GD/Convair airline performance engineer, following a recent customer survey.

Runnalls recently returned from his second inspection of Japan Air Lines and Civil Air Transport of Formosa to observe personally how well 880-Ms are serving after a full year behind them. He also visited Cathay Pacific Airlines at Hong Kong for his first contact since the line placed an 880-M in service early this spring.

His first inspection of 880-M operations abroad was made late last year shortly after JAL and CAT had put Convair-built jet transports into service.

Findings of his initial tour were repeated down the line, even more emphatically than before.

"JAL is continuing to express endorsement of the 880-M as highly as during the 1961 trip.

"Airplane reliability is steadily increasing with additional experience of maintenance personnel. The flight crews are unanimous in their praise of the airplane, and, if I could cross the language barrier, I am positive that I would find that the Asian public likes the airplane very much.

"The Japanese consistently ride the 880-M in great numbers into and out of Tokyo. It will be interesting to observe the load factor history during the next year on the new Tokyo to London JAL 880-M route, which began early in October. This route has many intermediate stops and tremendous competition."

In Formosa he found that CAT has "nothing but admiration and praise for its 880-M."

"The flight crew proficiency, as noted during my jump-seat ride from Tokyo to Taipei, was as good as I have ever witnessed.

"The exterior and interior condition of the CAT 880-M continues to challenge search for superlatives. You can comb your hair in the reflection of all unpainted exterior surfaces. The huge dragon on the fuselage is still chasing the fiery sugar plum as brilliantly as the day he was born in San Diego!"

Cathay Pacific is smoothly moving toward an excellent operational picture with its 880-M, was Runnalls' observation from Hong Kong.

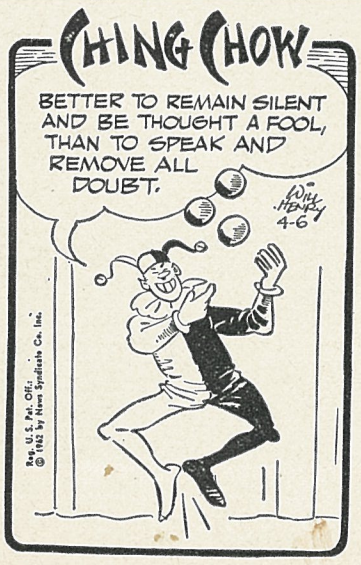
"Here is a group that shows excellent knowledge of their 880-M, does a fine job of flight operations, and is eager to learn more about everything pertaining to the plane."

A sidelight from Hawaiian Airlines, contacted en route home, disclosed that the line is operating a fleet of six Convair 440s—all in excellent condition. Average airframe time is just under 20,000 hours and HAL claims the 440 is the most economical airplane available for its type of route structure.

Summarizing, Runnalls said, "The experience of our customers with our products in the field and the ready endorsements they give was the real bonus of this trip.

"The continued fine record of Convair's planes all over the Orient is to the credit of the people who make up the GD/Convair team.

"From the PBY-5A seen in takeoff at Taipei, to the busy North Japan Airlines' 240s at Tokyo, the tireless 440s shuttling the Hawaiian chain, to the JAL, CAT, CPA fleet of 880-Ms serving the entire Orient and the impressive Swissair and Thai 990s at Tokyo, Taipei, and Hong Kong, one can't help get the feeling that we build the best airplanes in the world at GD/Convair!"



Another GD/FW Team Goes to Sea To Watch Navy Jet Operations

Day-and-night operations of swift, carrier-based jets were observed firsthand recently by key General Dynamics/Fort Worth people.

Purpose of visits aboard the USS Independence was to give GD/FW personnel a "realistic knowledge of how the Navy handles modern jets from its latest-type carriers."

The Independence, powered by conventional means, is sister ship to the nuclear-powered USS Enterprise.

"I'd say the trip provided invaluable knowledge," said J. D. McEachern, superintendent of development field operations, who, along with R. W. McGuffee, development manager, toured five days aboard the Independence.

"We observed a group of Navy pilots going through a familiarization course with a new type of jet aircraft, a night-and-day operation."

Earlier, a nine-man contingent of GD/FW engineers spent three days aboard the Independence.

They were: Bob Moller, project engineer; O. R. Batchelder, group engineer; J. R. Vaughn, design group engineer; D. C. Wilson, design group engineer; T. E. Collins, aerosystems group engineer; R. N. Hale, senior product support engineer; M. M. Alexander, senior structures engineer; E. E. Hile, senior design group engineer; and R. H. Dietz, senior aerosystems design engineer.

Last summer, a team of top executives from GD/FW and Grumman Aircraft made a three-day observation trip on the USS Constellation.

The team included: Frank W. Davis, GD/FW president; J. T. Cosby, GD/FW vice president-TFX program director; Dick Johnson, GD/FW manager of flight; H. B. Henderson, GD Washington office; and Gordon H. Ochenrider of Grumman Aircraft Engineering Corp.



NAVAL CONFERENCE—R. W. McGuffee, development manager, and J. D. McEachern, superintendent development field operations, discuss aerial operations aboard USS Independence with Captain L. V. Swanson, right, and Commander W. Robinson.

Jet Customers Attend Review On Reliability

Three General Dynamics/Convair men traveled to Cincinnati, Ohio, early this month to attend the second annual General Electric-GD/Convair 880/990 customers' review of operations during the past year.

Discussion centered on engine reliability, and performance and overhaul procedures.

L. J. Bordelon, chief of service engineering: R. L. Runnalls of engineering flight test; and W. F. Helmich of thermodynamics engineering were among the 50 present at the Nov. 5-7 meeting.

Airlines operating Convair-built jetliners represented were TWA, Delta Airlines, Japan Air Lines, Northeast Airlines, Swissair, American Airlines, Alaska Airlines.

Runnalls continued on to the East Coast to witness an FAA demonstration of a newly-developed runway arresting barrier system for commercial transports. Over 200 from airlines and the aircraft industry observed the demonstration Nov. 8 at the National Aviation Facilities Experimental Center, Atlantic City, N. J.

Divisions to Close For Thanksgiving

All General Dynamics people will be observing Thanksgiving Day tomorrow (Nov. 22).

Divisions will close for the one-day observance. Only those persons necessary for essential maintenance and industrial security functions will be required to work on the holiday.

Work will resume at the regular shift times Friday, Nov. 23.

GD/FW Mates Hustler Converted to Trainer

Mating of the modified nose section and fuselage of Hustler No. 4—one of three former test Hustlers now being converted to trainer planes—was carried out on schedule Nov. 6 at General Dynamics/Fort Worth.

"Other trainer-bomber work in the TB Area in the 200-foot bay area also is going along on schedule," said J. B. Seaberry, modernization superintendent.

Completion of installation and final-assembly operations on No. 4 is expected by mid-January, when the plane is slated to go to systems operations.

After installation of electronic systems and operations, the trainer will be delivered to development field operations. Tentative delivery date to Air Force is sometime in April.

Test Hustlers Nos. 3 and 2, which entered the conversion program Sept. 2 and Oct. 1, respectively, are now undergoing nose and fuselage modifications.

Tentatively, No. 3 is scheduled for delivery in mid-May, while No. 2 is scheduled to go in mid-June.

"The 90 departments are performing modernization, supported by factory departments," said Seaberry.

"Systems modification is being performed by Dept. 75, with field operations support from Dept. 63."

These trainers will join four others now in service with SAC B-58 combat wings—the 43rd at Carswell AFB and the 305th at Bunker Hill AFB.

Dynamics Leaders To Present Papers At Coast Symposium

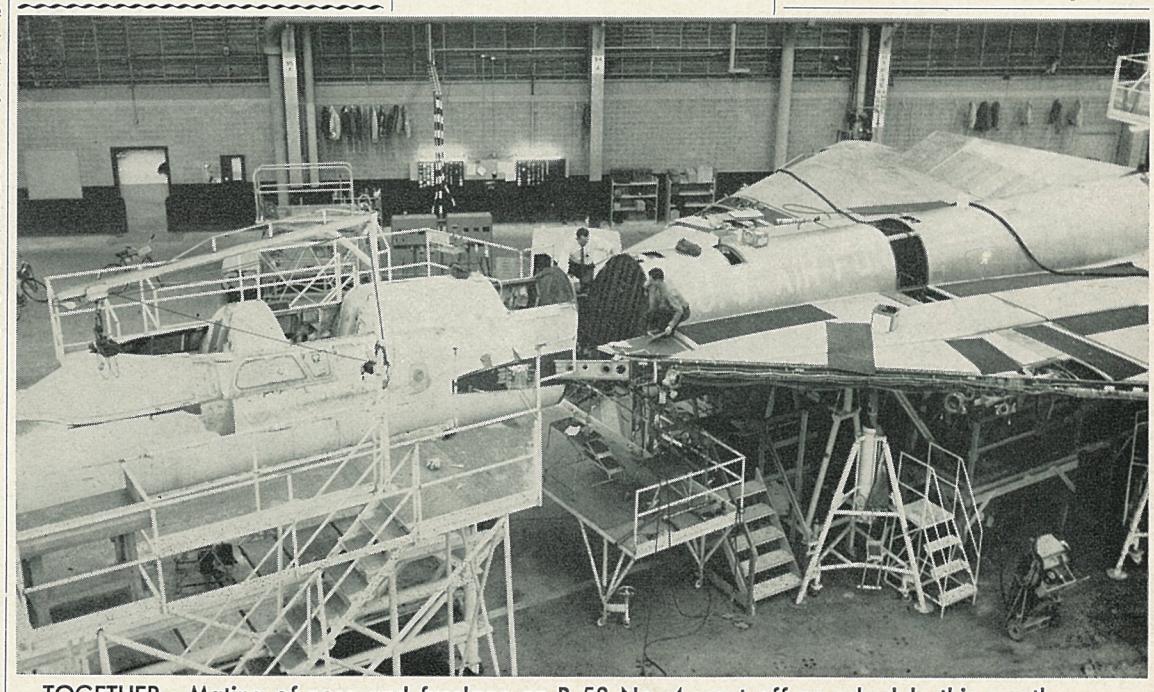
Among papers already accepted for presentation at the Ninth National Symposium on Reliability and Quality Control is one prepared jointly by J. Y. McClure and E. S. Winlund.

McClure is General Dynamics Corporation director of reliability and quality control. Winlund is GD/Astronautics manager of reliability control engineering.

The symposium will be held Jan. 22, 23 and 24 at San Francisco, marking the first occasion it has been held on the West Coast.

McClure will present a paper titled "Design Review, a Philosophy Survey and Policy."

Other papers prepared by Corporation individuals are also expected to be accepted at a later date.



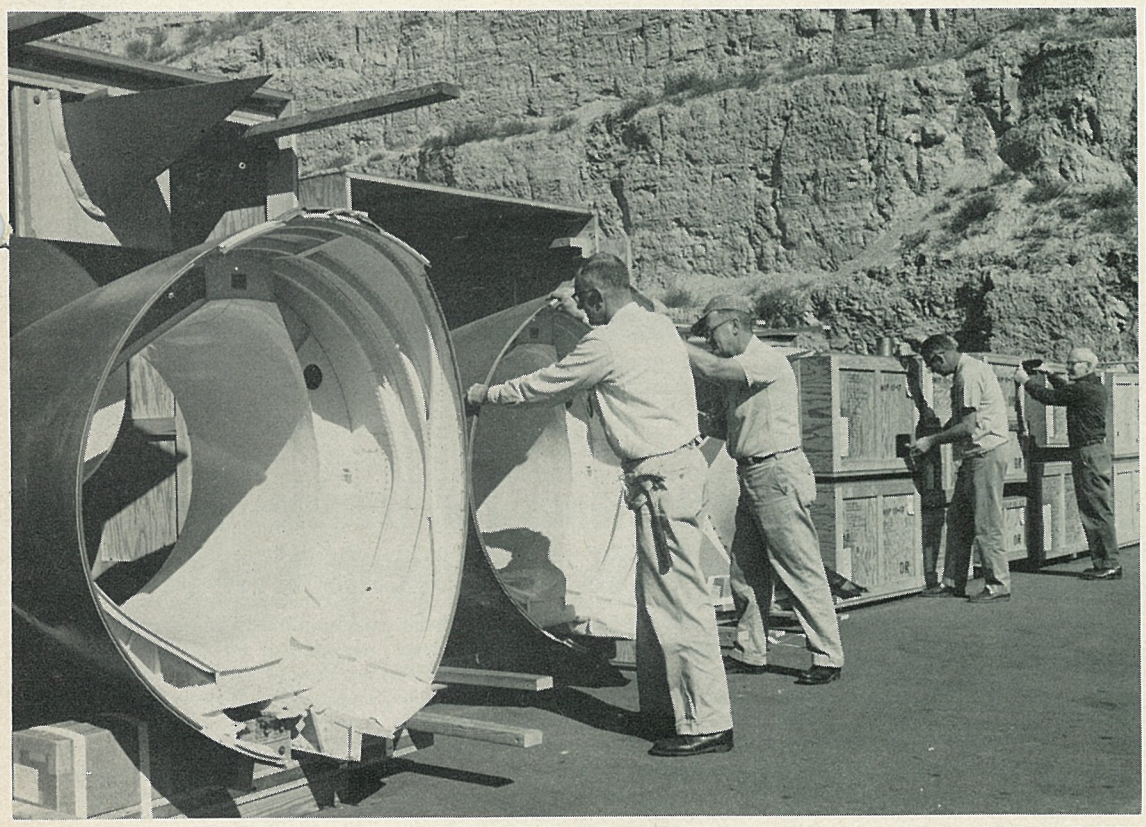
TOGETHER—Mating of nose and fuselage on B-58 No. 4 went off on schedule this month.

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 25 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, December 5, 1962



LAST SHIPMENT—From left, Elwyn Johnson, Harold Hayes, Jess Moore, John Alcock, all of GD/Convair Dept. 14-4, secure last parts of Swissair 990 modification kit before shipment last week. Scene is at Rose Canyon.

Mod Kits For Swissair Set Overseas Record

Last modification kit for updating Swissair's 990 Coronados was loaded aboard a freighter at San Diego last week to start the 38-day ocean voyage to Europe. Parts will be unloaded at Antwerp for an overland journey to their destination.

Since late June all components for updating the seven Swissair 990 jetliners have been moving out of the General Dynamics/Convair facility on schedule in one of the largest overseas shipments in recent years, in volume and number of parts for Convair planes.

Three thousand different parts, ranging in size from a large pod extension to rivets and gaskets, made up the modification kits. It took 21 shipping containers for each kit and a lot of ingenious planning by GD/Convair shipping to handle all of the components of varied shapes and sizes.

To keep the packing as compact as possible, Rose Canyon shipping experts devised ways and means to nest and invert parts in the same container. For instance, John Stoffel, shipping assistant foreman, reported fillets were inverted, one over another, to save space; two pod parts were secured in the same box, one suspended from the top and the other secured to the floor, to get two in the same space one would have taken.

Plywood containers were used in the packing for export with polyethylene sheeting around the cartons inside to protect parts from moisture.

One shipment was made in June from the San Diego Tenth Ave. Terminal. Second went out in August and two a month were shipped in September and October. Last and final kit left the San Diego port the last week in November.

Updating work now is under way at Swissair's headquarters at Zurich with support of a GD/Convair team from field service engineering, tooling engineering, field operations, inspection, factory.

99.9 Per Cent Reliability Goal Set For GD/Convair Products

"Reliability means our jobs!" commented W. L. Dueber, leadman in Dept. 101 hand form and heat treat, GD/Convair, last week.

"Every one of us who went through the reliability training now understands how much it means to us, personally, to do everything just a little bit better than we ever did before. We now have a concrete goal to aim for—that 99.9 per cent reliability figure is very real to us.

"And, you may be sure, when we are working on parts for a space project, for instance, when we see Little Joe II travelers come through, all our people are anxious to put out the extra effort to see that those parts are just as perfect as we can make them. We don't want rejects on our area!"

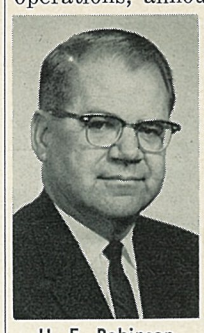
(Dueber is one of the some 25 sheet metal people reporting to Leo Budzynski, assistant foreman, who recently went through the current "Space Age Reliability" indoctrination being given throughout GD/Convair under auspices of educational services.)



Bill Dueber, Dept. 101 leadman.

GD/E Appoints Mfg. Manager

H. E. Robinson has been appointed manager of manufacturing for General Dynamics/Electronics, effective Nov. 30, J. H. Thompson, GD/E manager of operations, announced.



H. E. Robinson

In his new post, Robinson will be responsible for assembly, fabrication, and manufacturing control at GD/E's Plant 1 facility. He succeeds H. O. Patchel, who has resigned from the company.

Before joining GD/E - San Diego in 1960 as supervisor of tool design, fabrication, and process planning, Robinson had been with GD/Pomona on a special administrative assignment.

From 1935 to 1958 he was employed by Vard, Inc., of Pasadena, Calif., as plant superintendent, vice president in charge of manufacturing, and assistant to the president.

A native of California, Robinson attended Long Beach Poly Tech High School, and has taken special courses in production control and industrial engineering at California Institute of Technology. He is an active member of ASTME.

'Boosters' Promote Mgt. Club Affairs

Management Club "boosters" now will be known by their labels as they circulate through GD/Convair and GD/Electronics promoting club activities.

Membership committeemen and ticket salesmen will wear black and white badge tags, identifying them as "Management Club Boosters," in a step to bring advantages of club membership and attendance to attention of all eligible to belong to the organization.

Dan Macey, as chairman, and R. B. Thompson, assistant chairman, head up the booster group, with G. O. Couchman, board of control member responsible for ticket distribution.

Multi-Million TFX Contract Won by GD/FW

A herculean effort on the part of General Dynamics/Fort Worth, teamed with Grumman Aircraft Engineering Corp., to obtain the contract for the TFX bi-service fighter met with success late last month.

The story made big black headlines in Fort Worth, of course, but it was page one news in many other cities as well, reflecting not only the importance of the business itself but also the wide public interest in the fortunes of General Dynamics.

Pride of accomplishment within the General Dynamics family was naturally greatest at Fort Worth, but it was widely shared at other divisions, even though vicariously.

Commenting on the long, nerve-wracking effort that stretched over many months during which the GD/FW — Grumman team faced rivals of awesome caliber, GD/FW President Frank Davis said:

"Never before has industry been called upon to put such effort into the preparation of a proposal, and never before has competition been keener."

According to the Department of Defense, full details of the magnitude and cost of the program are subject to negotiation.

"However, it will be a multi-million-dollar program, and will surpass any fighter program since World War II in both numbers and dollars," the DOD statement continued.

TFX, to be designated F-111A for Air Force use and F-111B by the Navy, will have a variable sweep wing which will extend and retract during different phases of flight. This will provide maximum lift throughout the fighter's entire speed range.

With a ferry range of about 3,000 nautical miles, TFX is to have a top speed of about two-and-one-half times the speed of sound, including supersonic speed at sea level.

According to DOD announcements, it will be able to fly anywhere in the world in one day, and will be capable of carrying all conventional and nuclear weapons, including the latest air-to-surface and air-to-air tactical weapons and systems.

The plane is designed for short takeoff from rough airfields in forward areas, and will also have a short-landing capability. It will have a gross weight of about 60,000 lbs. and be able to attain altitudes of over 60,000 feet.

The two-man tactical fighter will be powered by two Pratt and Whitney JTF-10A-20 turbo-fan engines.

"Determination of the prime contractor followed a most thorough and detailed evaluation," said the DOD announcement concerning selection of the GD/FW-Grumman team.

"The evaluation weighed both proposals in the light of design, performance characteristics, size and weight of aircraft, other technical characteristics, operational advantages and management and cost factors."

Hours after its selection as prime contractor was announced, a new TFX project organization (part of the TFX proposal) swung into action at GD/FW under J. T. Cosby, vice president and program director.

Other members of the successful GD/FW-Grumman team include Pratt and Whitney, Litton Industries, McDonnell Aircraft Corporation, General Electric Company.

JAL Buys Three 880-Ms, Fleet Upped to Eight

Japan Air Lines this week ordered three more Convair 880-M jet airliners. They are scheduled for delivery in March and April of 1963.

The three airplanes will bring to eight the number of 880-Ms in the JAL fleet. The transaction was announced jointly, in Tokyo by Shizuma Matsuo, president of JAL, and in San Diego by J. H. Famme, president of GD/Convair.

JAL will place the three new 615-mile-per-hour pure jets in service on its domestic route, connecting the cities of Tokyo, Sapporo, Osaka and Fukuoka.

Convair 880-M service was inaugurated by JAL in September of 1961. The planes were used primarily on the Southeast Asia route between Tokyo, Hong Kong, Bangkok, Singapore and Djakarta. In autumn of 1962 the route was extended to Europe via Calcutta, Karachi, Kuwait, Cairo, Rome, Frankfurt and London.

The three new aircraft will have five-across economy class seating throughout, an arrangement designed specifically for the domestic route. The plane will carry a total of 119 passengers. The first five JAL 880-Ms carry 90 passengers each in a combination de luxe and economy cabin configuration.

The 880-M is identical in external appearance with the Convair 880 except that eight wing

(Continued on Page 2)

Membership in Con-Trib-Club At GD/Convair Now at 91 Pct.

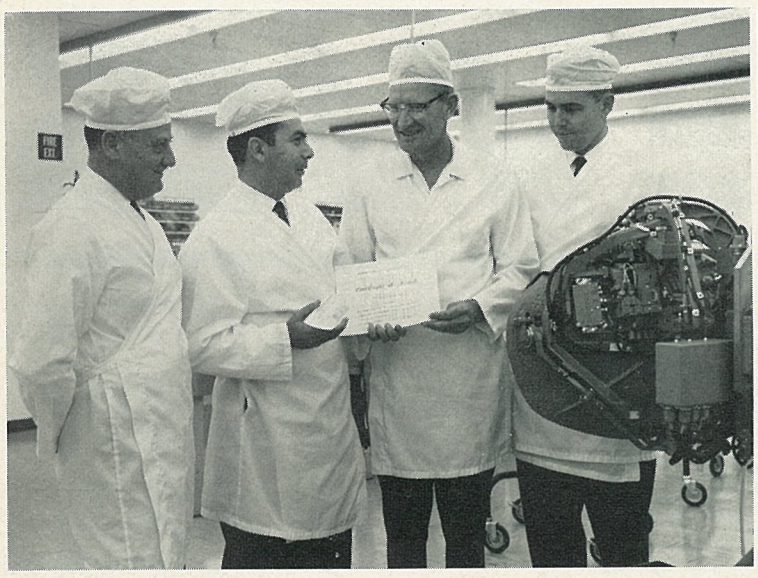
Membership in GD/Convair Employees' Con-Trib-Club was pushed over the 90 per cent mark as a result of the recent drive to gather in all not already contributing.

Actual percentage of employees now contributing is 91 per cent, said J. K. Field, Con-Trib Committee chairman. This is an increase of four per cent over the 87 per cent listed before the drive.

The drive resulted in 155 new contributors, bringing the division's total membership to 5,849.

All donations, made by payroll deduction, are earmarked for charitable organizations, including the $100,000 pledge to the United Community Services.

Approximately 10 per cent of all Con-Trib-Club funds is set aside for the Emergency Aid Fund for the benefit of employees themselves when faced with emergency situations beyond their control.



GD/E AWARD—C. E. Bolander, GD/Electronics precision mechanic (second from right) receives Employee Suggestion award and $169.16 check from General Manager John Lombardo in GD/E ultra clean room. Looking on are J. H. Thompson (left), manager of operations, and D. C. Newlon (far right), electronic assembly general foreman.

GD/Electronics Man Receives Pre-Christmas Check for ES

C. E. Bolander of GD/Electronics at San Diego earned a nice bonus this month in the form of an Employee Suggestion award when he reworked parts tabbed for rejection.

By disassembling and reshimming, he was able to reclaim 37 rotary joints so that they could be used satisfactorily in the assembly of antenna wave guides for REINS radar. This saved the division $1,691.64, giving Bolander a pre-Christmas check of $169.16.

In his job as precision mechanic, he had worked out a more accurate combination of shim thickness for joints to be used in the future. However, explained D. C. Newlon, electronic assembly general foreman, the ES award was made for Bolander's actual reclamation of parts on hand, which otherwise could not have been used.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due during the period Dec. 1 through Dec. 15.

Twenty-five-year: Dept. 34-2, H. J. Hagman.

Twenty-year: Dept. 3-1, F. G. Merritt; Dept. 6-2, R. M. Hopkins; Dept. 20-0, W. J. Dewey; Dept. 48-05, E. F. Whalen; Dept. 140, E. W. Ferrin, E. W. Merris; Dept. 171, P. S. Maxam; Dept. 192-1, O. J. Braaten; Dept. 218, W. C. Faulkner; Dept. 400-1, H. S. West; Dept. 401, J. H. Crockett, R. W. Trantham.

Fifteen-year: Dept. 6-2, O. N. Presley; Dept. 14-4, Marie P. Willey; Dept. 27-6, Marguerite F. Cooke; Dept. 48-11, Maud F. Greenhalgh; Dept. 115, M. E. Scholz, Rose D. Thomasson; Dept. 140, I. P. Mouet; Dept. 171, J. R. DuBois; Dept. 201, L. B. Zerr; Dept. 218, J. C. Carrier, D. W. Hayes.

Ten-year: Dept. 6, J. E. Jensen, W. T. Lloyd; Dept. 16-6, Mary F. Bruchez; Dept. 27-6, Pauline S. Kelly; Dept. 35-0, A. L. Ratz; Dept. 115, J. R. Emmons, A. E. Hess Jr., D. C. Maguire; Dept. 192-1, G. L. Tucker; Dept. 215, B. E. Berry.

Promotions

GD/ELECTRONICS

Promotions to or within supervision effective Nov. 19.

Dept. 42-00, Material: To buying supervisor, F. S. Acomb.

Dept. 54-06, Engineering: To asst. electronics group engineer, E. W. Revell.

Dept. 74-20, Operations: To manager of manufacturing, H. E. Robinson.

Retirements

CONVAIR

CUNNINGHAM—Velma B., Dept. 102. Seniority date Jan. 9, 1951, retirement effective Oct. 31, 1962.

ELEGINO—Bibiano, Dept. 146. Seniority date July 20, 1953, retirement effective June 2, 1962.

FOSTER—George M., Dept. 160. Seniority date Sept. 25, 1952, retirement effective Oct. 31, 1962.

HALEY—John M., Dept. 31. Seniority date Dec. 13, 1946, retirement effective Nov. 2, 1962.

HUSSEY—Warren M., Dept. 14. Seniority date Aug. 21, 1941, retirement effective Nov. 13, 1962.

MILLER—George, Dept. 140. Seniority date July 26, 1950, retirement effective Nov. 14, 1962.

Personals

CONVAIR

I wish to thank my many Convair friends for their kind wishes, flowers, and gifts during my recent illness.

Helen R. Miller, Dept. 16-6.

Computer Systems Explained in Talks

GD/Convair administrators are being briefed on computer systems—proper utilization, cost, and potential—in a series of lectures by IBM experts from San Diego, San Jose, and Los Angeles.

So far, about 60 department heads and supervisors have heard various phases of management use of computer systems in talks once a week in the GD/Convair plant. Future lectures will deal with numerically-controlled machines and tools, and engineering use of data processing machines.

R. L. Fefferman, chief of dynamics, is coordinating the program with assistance of GD/Convair educational services.

Membership Offer In Air Club Renewed

Aspiring pilots at GD/Convair and GD/Electronics may join, or renew membership, in the flying club sponsored by Jim's Aircraft, Inc., at discount prices.

The special offer, initiated last fall through CRA arrangements, has been extended for the coming year, according to Jim Bracamonte, owner of the aircraft company.

Rates to General Dynamics fliers are $7.50 an hour for use of planes and $4.50 for instruction. Members of the GD pilot group, known as the Bracamonte Fliers, must pass a ground school course before taking to the air.

Full details may be obtained from W. W. Frase, ext. 796, Plant 1.

F-102 Squadron Ranks Second In AF-Wide Performance Rating

An F-102 squadron, the 509th FIS of the 405th Fighter Wing, based at Clark Air Base, Philippines, placed second in overall mission performance for fiscal year 1962 competition involving all FIS units with the U. S. Air Force.

The annual competition is sponsored jointly by Hughes Aircraft Co. and the Night Fighter Association at Headquarters, USAF, to choose the interceptor squadron performing its air defense mission in the most efficient manner.

Criteria for nomination and selection include aircraft operational readiness rating, aircraft flying hours, safety, profile mission success rate, annual training program, and air weapons system reliability. Also considered are the units' outstanding accomplishments during the rating year, and major command Operational Readiness Inspection reports.

According to W. C. Butterfield, General Dynamics/Convair field service representative at Clark Air Base, the 509th was judged best of the air defense units in PACAF, and second in the USAF.

Gen. William F. McKee, USAF vice chief of staff, said in a congratulatory letter, "The exceptional records of units nominated for this year's award made it extremely difficult to select the winning unit. The 509th ranked a very close second in final consideration."

Col. R. C. Crawford Jr., 405th Fighter Wing commander, extended his appreciation for a job well done, adding that each member of the F-102 unit and supporting activities exerted a sincere effort to excel in all undertakings.

A squadron group won the offensive team category in the first annual PACAF Munitions Loading competition at Kadena Air Base, Okinawa, recently, scoring a total of 12,649 points out of a possible 15,000 in four different events.

Japan Air Lines Buys Three More 880-Ms

(Continued from Page 1)

leading edge slats and two wing leading edge Krueger flaps are employed to reduce landing and takeoff distances.

The 880-M has increased fuel capacity and range. Each of the four General Electric CJ 805-3B engines produces 11,650 lbs. of thrust.

Fifty-six Convair 880s and 880-Ms are in service with eight airlines throughout the world.

Dec. 19 Is Deadline For Dance Tickets

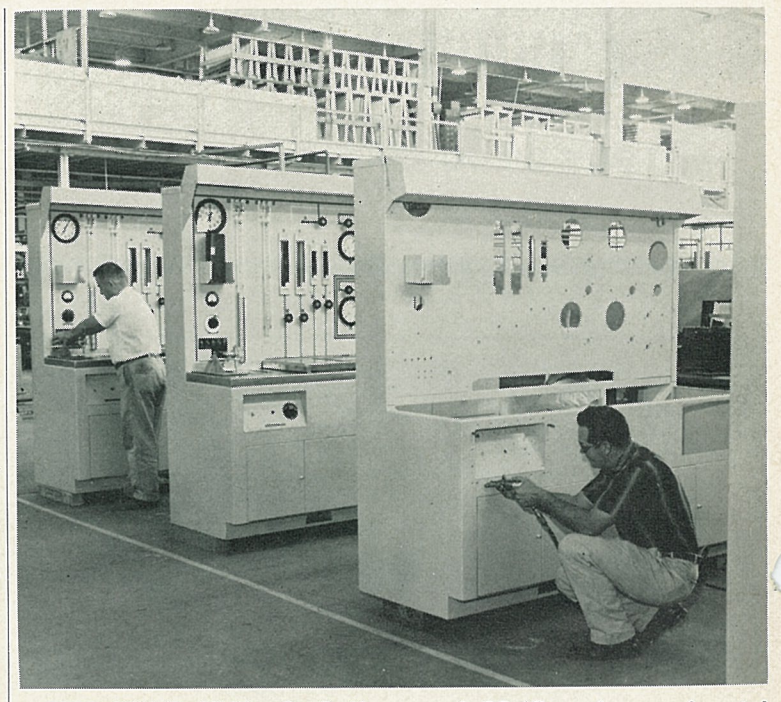
GD/Electronics people have just two weeks to get their tickets for their gala Christmas dinner-dance.

Deadline date is Dec. 19, and since accommodations are limited to 1,000, all GD/E Plant 1 and Plant 2 (Hancock St.) persons are urged to act fast while tickets are still available.

Date of the annual holiday affair is Dec. 23. Location is the Fleet Room of Del Webb's OceanHouse on Mission Bay Drive, off Hwy. 101.

Reception will open the evening at 6:30 p.m. with a roast beef dinner at 7:30 p.m. Special entertainment and dancing will fill the rest of the evening.

Tickets at $4 each are available from all department clerks and staff secretaries at both facilities.



TEST STAND LINE—G. F. Kresser of GD/Convair experimental is at controls of recently-completed AF test stand prototype for check of F-106 pneumatic controls. Drilling rivet holes in foreground is R. S. Bryan (Dept. 31).

Test Stands For Trouble Shooting On F-106 Components Now in Work

Prototype test stand for checkout of F-106A/B pneumatic components, forerunner of 15 to be built at General Dynamics/Convair for the Air Force during the next few months, now is complete and waiting proofing tests.

The test stands, designed at GD/Convair to AF specifications, will go to Air Force bases for checkout during overhaul and trouble shooting of F-106 pneumatic components, such as pressure and control valves, restrictors, cylinders.

Proofing of the first completed stand will be done in dynamics lab by GD/Astro Dept. 500 test lab engineers, under surveillance of an AF inspection team. During checks it will be subjected to extreme temperatures, both hot and cold, to be sure that it will stand up under any kind of weather conditions.

First production article was to be finished by the end of November, two more in December, and three a month after that until next April completion date. Construction work, which began in mid-summer, is being done in experimental under direction of G. K. Phares with B. A. Clemmens, Dept. 31 foreman, in overall charge. J. E. Johnson is design engineer on the project.

Production of the current test stands is a follow-on to previous orders under which GD/Convair built and delivered to the Air Force two each fuel transfer boost pump, fuel valve checkout, and fuel flow equalizer test stands.

Reservations Close Dec. 11 For Luncheon

General Dynamics/Electronics wives must make reservations for the Wives' Club Christmas luncheon by next Tuesday (Dec. 11).

Mrs. Don A. Siebenaler now is taking reservations at her home, phone CO-2-1189.

The holiday affair will be held on Dec. 13 at the University Club, 1333 Seventh Ave., with social hour at 12:30 p.m. Price is $2.50.

Each woman is asked to bring a $2 gift for the gift exchange.





MANAGEMENT HONORS—Top shot shows B. J. Wood, cost accounting supervisor (left), receiving Mug of Month from A. J. Chitiea, controller. Mug, awarded at November Management Club meet, was for Wood's club activities. In lower photo Robert L. Mellison, senior buyer, accepts MacSave-it trophy from G. W. Zahrte, manager of procurement (right), for CIP resulting in $97,868 savings for company.

General Dynamics NEWS

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Supersonic Transport Believed Inevitable

President C. R. Smith of American Airlines recently predicted that the United States will build supersonic transports because it cannot do without them.

Smith said some nation is certain to build a supersonic transport, and that nation would then dominate world air transportation with its accompanying economic and prestige benefits.

"Obviously, no nation will permit another to dominate world air transportation and the least likely of all to take a back seat is the United States," Smith said. "Let us assume then, as we must, that the United States will make an all-out effort to be suitably represented on the air lanes of the world."

Speaking at the annual meeting of the American Society of Travel Agents in Las Vegas, Smith cautioned his audience that they were not likely to make bookings on supersonic transports within the next 10 years, however.

Economic objectives must be attained in the development of a supersonic airliner, Smith said. "The airplane of tomorrow should be self-sustaining, with attainable load factors, at prices that the customer will be willing to pay," he said. "We now know very little about the economic potential of supersonic air transportation.

"We now have only estimates of what the airplane may cost and what the cost of operation may be," Smith continued. "We must have better answers and it will take time to produce these.

"The future of supersonic air transportation will be limited indeed if supersonic transports can be afforded only by national governments," the airline authority added.

Another question is whether a supersonic transport should be constructed to fly at twice the speed of sound (Mach 2), at two and one-half times the speed of sound (Mach 2.5) or at three times the speed of sound (Mach 3).

"If we could be sure that all other nations would be willing to stop at the half-way house, doing no more than Mach 2, it might be sensible to adopt that course," Smith said. He added, however, that if some nation believes it can go directly to Mach 3 with success, it will be even more eager to do so if it is persuaded that its neighbors will likely stop for the time being at Mach 2.

"As of now, the best course appears to be the development of a transport able to do Mach 2 or Mach 2.5, with a built-in ability to stretch later to Mach 3," he said. "Any ultimate planning goal short of the maximum too readily brings the threat of early obsolescence."

Airplanes that can fly faster than Mach 1 (speed of sound) can be built around conventional aluminum alloys, he noted. But long before Mach 3 is reached high temperatures will make different metals, probably steel and titanium alloys, necessary, he said.

Smith also said the supersonic transport must have some potentiality for domestic air commerce, as well as transoceanic travel.

"But how much it can be used in the United States will depend largely on the plane's performance and on its economic characteristics and these are now too uncertain to support strong opinions," he continued.

"The reason we need time for the development of supersonic air transportation is that, while we should not dally, we must also be sure not to get too far ahead of our knowledge," Smith said.



OVER THE FALLS—Canadair-built CL-44 cruises over famed Horseshoe Falls at Niagara, Ontario, in this spectacular photo, taken by Royal Canadian Air Force from a Flying Boxcar. Another RCAF CL-44 recently completed record 23-hour, 51-minute flight from Ottawa to North Pole and back to North Bay, distance of 7,000 miles.

GD/Astro Paper Read in Tokyo

A research paper co-authored by two General Dynamics/Astronautics design specialists was presented recently at the Fourth International Symposium on Space Technology and Science held in Tokyo.

Co-authors were Dr. Paul E. Wilson and Edward E. Spier Jr. of Astro's structures research group—applied research laboratories. Professor T. Hayashi of the University of Tokyo presented the paper.

The Japanese Rocket Society screened and evaluated abstracts and papers from throughout the world for presentation at this event.

Dr. Wilson and Spier presented extensive theory and illustrated unique findings on the large deflections of spherical shells subjected to concentrated radial loads. Their paper was titled "Numerical Analysis of Small Finite Axisymmetric Deformation of Thin Shells of Revolution." Technical investigations for this paper were supported under a General Dynamics-sponsored research program.

AF Education With Industry Symposium Hosted by Astro

Participants in Air Force Education With Industry (AFEWI) programs at 13 major industrial firms throughout the United State converged last month on San Diego for a three-day meet.

Occasion was the annual AFEWI Program Management Symposium, held this year at General Dynamics/Astronautics.

Attending were 22 officer students and 14 AFEWI coordinators from aerospace firms as distant as Maryland and New York, plus a six-officer delegation from Air Force Institute of Technology which administers the program.

In the latter group were Col. K. D. Stevens, deputy commandant of the Institute; Col. M. R. Palmer, director of civilian institutions programs; Maj. A. L. Savoca, chief, professional education branch; his assistant, Capt. J. Gurski; and Lt. Col. C. S. Wylie.

Hosting the event was J. A. Croft, GD/Astro chief of educational services, while Lt. Col. V. A. Black, Maj. W. A. Wenberg, and Capts. B. E. Goode and D. L. Picardat, participants in this year's AFEWI program at GD/Astro, attended symposium sessions.

The group toured GD/Astro operations at Kearny Mesa and Plant 2.

During business sessions, W. H. Patterson, vice president-advanced product planning; E. G. Hill, controller; Directors G. M. Robertson, C. W. Blakey and P. I. Harr, described GD/Astro organization.

Other speakers included GD/Astro's J. L. Budros, J. H. Johnson, K. F. Schuele, W. S. Dickey, A. B. Cox, R. A. Lynch, and Dr. R. C. Armstrong.

GD/Astro Engineer Attends Conference

Philip J. Swanson, project engineer at General Dynamics/Astronautics, was an observer at a Junior Engineering Technical Society Leadership Conference held recently at California State Polytechnic College, Pomona.

The conference was designed to encourage and assist high school and junior college students in exploring engineering careers.



PRE-PLANNING—GD/Convair value control coordinators meeting to outline schedule for Nov. 27-29 customer and supplier seminar are, around table from left, Joe Freeman, Charles Wallman, B. W. Kahla, D. L. Macey, S. W. Swenson, H. P. Williams, value control manager, W. D. Lavis, E. P. Pennebaker, W. G. Martin, G. P. Williams, J. J. Jodka, W. H. Goggin.

Customers, Suppliers Attend Value Control Seminar at SD

About 30 customers and supplier representatives were at San Diego last week attending a value control seminar arranged especially for them by General Dynamics/Convair.

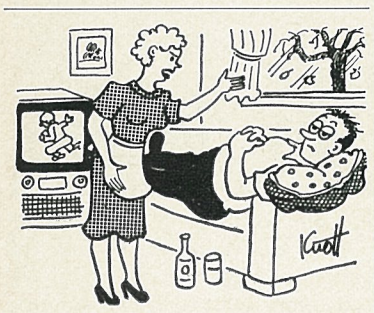
The three-day value engineering/analysis seminar is second in a series planned for interested military and governmental personnel and vendors of both GD/Convair and GD/Electronics divisions. First seminar of this kind was held at the San Diego plant in May of this year.

Sending delegates to the Nov. 27-29 session were Army, Navy, Air Force commands and over a dozen firms throughout the country, said H. P. Williams, GD/Convair value control manager, in charge of the program.

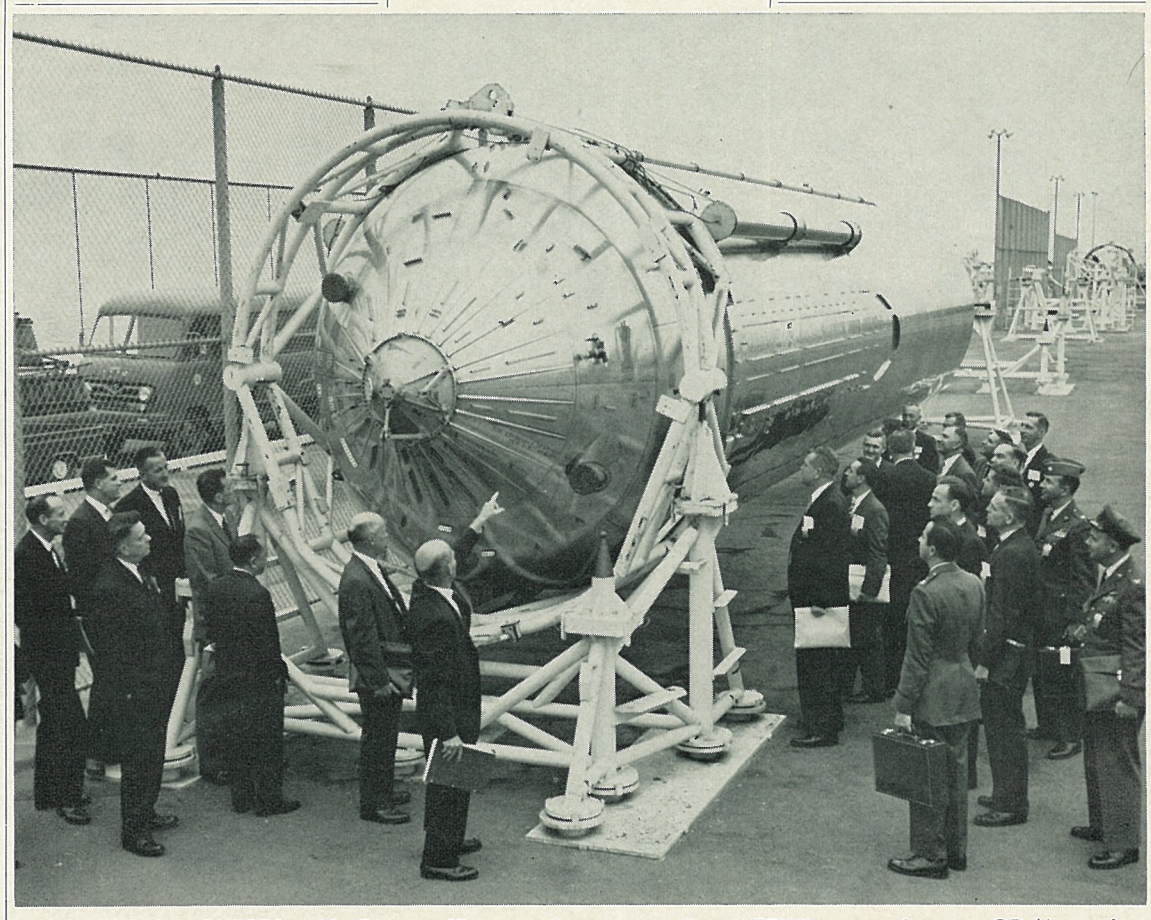
Military installations sending delegates included Naval Air Station, San Diego; Bureau of Naval Weapons; Los Angeles Procurement District, Pasadena, Calif.; San Diego Air Force Contract Management District.

Vendor representatives were sent by Raymond Development Industries, Airesearch Mfg. Co., The Garrett Corp., Fairchild Camera and Instrument Corp., Dutton Mfg. Co., Rohr Corp., Rule "D" Corp., Talley Corp., Pacific Scientific, Archer Machine Co., Marman Division of Aero-

(Continued on Page 4)



"You can quit promising to take the storm windows down now—it's time to leave them up again."



SYMPOSIUM GUESTS—Air Force officer students attending AFEWI symposium at GD/Astro last month ring Atlas missile tank during tour. Pointing out details is Emory Thurston, educational services, standing center with clip board.

USS Columbus, Armed With Tartar, Goes to Sea as 'Brand New' Ship

Crew members who served aboard the heavy cruiser USS Columbus before she underwent conversion to become a guided missile cruiser at Puget Sound Naval Shipyard, Bremerton, Wash., will never recognize her as the same ship.

Columbus, commissioned Dec. 1 at Puget Sound Naval Shipyard, has been completely "face-lifted," from bow to stern, from keel to the top of the mast. Only remaining parts of the "old" Columbus are the engineering systems and the hull itself. Even the hull designation number has been changed, from CA-74, to CG-12.

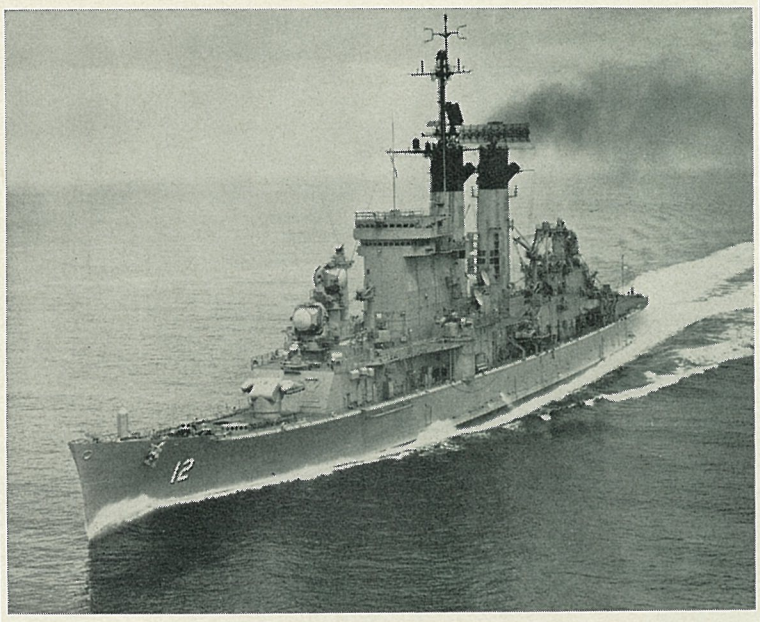
General Dynamics Corporation was represented at the commissioning by G. E. Sylvester, GD/Pomona vice president — operations, who presented the ship with a set of quarterdeck markers—scale models of Tartar missiles.

The entire superstructure of the Columbus was removed by yard workmen to make way for a new superstructure bristling with guided missile launchers and radar antenna. This new superstructure, along with the new "mack" (a new word combining "mast" and "stack"), gives the Columbus a strange, radical appearance—the ship is now seemingly topheavy. However, this is not the case. Almost exclusive use of aluminum for superstructure fabrication cuts the topside weight considerably.

From the keel to the top of the mast, the Columbus measures 217 feet 6 inches, higher than aircraft carriers of the Coral Sea class. Her overall length is 673 feet.

The mast, which is atop the forward mack, is collapsible, making it possible for the ship to steam into almost any seaport in the world. Due to the low spans of some bridges at entrances to harbors, such as New York City's "Hell's Gate Bridge," it would have been impossible for the Columbus to enter port without the collapsible mast.

The "new" Columbus is armed with three missile systems—two for anti-aircraft work and one for anti-submarine warfare. Two separate twin Talos launchers are the main battery, one fore and one aft, augmented by Tartar launchers mounted on the port and starboard sides of the ship. The anti-submarine rocket propelled torpedo ASROC gives the Columbus outstanding long-range anti-submarine capabilities. The only guns aboard the Columbus are various small arms and one forty-millimeter saluting battery.



TALOS, TARTAR, ASROC—USS Columbus (CG-12), newest addition to Pacific Fleet, has three missile systems. Talos, powerful, supersonic missile used for anti-aircraft, shore bombardment or against other surface ships; Tartar, surface-to-air missile built by General Dynamics/Pomona; and ASROC, rocket-propelled anti-submarine torpedo/depth charge.—(Official U.S. Navy photo).

Inclement weather is no longer a problem to the officers and men standing watch on the bridge of the Columbus. The entire bridge area has been enclosed with glass windows affording unrestricted visibility in all directions. What amounts to a miniature reproduction of the combat information center is located on the bridge, providing the commanding officer with an accurate picture of the developing combat situation.

The Columbus has been redesigned to accommodate a larger afloat flag officer's staff. All of these requirements have been met through use of spaces in the mack. Additional spaces are devoted entirely to radar, communications, and other facilities essential not only to the efficient operation of the ship, but necessary for the functioning of the Admiral's staff. In addition, to facilitate rapid movement from the main deck to the eighth level above the main deck (the bridge), a personnel elevator with room for six persons has been installed.

A completely different type crew is required for manning the new Columbus. Guided missile technicians replace many gunner's mates, to handle the intricate procedures for launching and maintaining the exotic guided missiles and guidance systems. A greater number of men in electronics, communications and radar fields are required due to the greatly expanded communications and radar facilities.

Living conditions for officers and enlisted men are vastly improved. All department heads are provided with individual staterooms and junior officers double up in staterooms as large as those for commanding officers on destroyers. All of the quarters are furnished with newest type shipboard furniture, including transom bunks, individual desks and stateroom telephones.

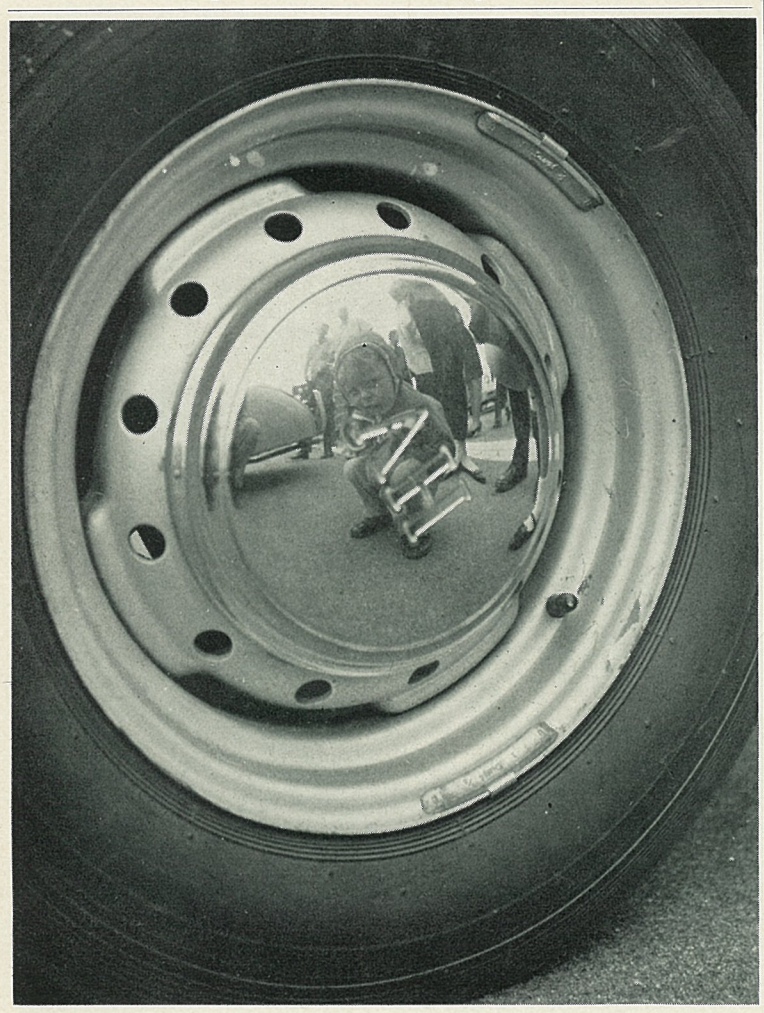
Enlisted berthing spaces are greatly modernized for habitability. Bunks are no longer stacked in tiers of four and five. The majority are double bunks with a few in tiers of three. Lockers are not to be seen—tops of bunks lift up to reveal each man's locker beneath his foam rubber mattress. Bunks are separated by aluminum partitions to afford more individual privacy. Each bunk also has an individual reading lamp. All berthing compartments have adjacent toilet and shower facilities. All working and living spaces are air conditioned.

The ship's own radio station can pipe continuous music, news and other type programs into each compartment.

Also introduced aboard the Columbus is a Central Control Station. This combines all of the engineering watches in a central part of the ship, away from the noise of the engine rooms. During the ship's drills this area will be bustling with activity with the engineering watches and numerous telephone talkers assembled to watch the many dials and instrument panels giving readings direct from engineering spaces.

The Columbus, although a cruiser, also has an Air Department. Two helicopters are housed aboard for personnel transfer and sea rescue purposes. They are kept astern, below decks in a hangar which also houses complete maintenance facilities. To get the helicopters to the main deck for takeoff, an elevator similar to those on aircraft carriers is used.

A full complement of doctors and hospital corpsmen are carried and a seven-bed hospital.



PEEKABOO—Novel photo shot at GD/Convair sports car rally recently by Howard Harvey shows curious tot reflected in hub cap of Austin-Healey.

C. F. Horne Speaks At SF Conferences

C. F. Horne, General Dynamics/Pomona president, spoke at two meetings in the San Francisco area last week.

On Nov. 27 he spoke at an inaugural meeting of the Northern California Industry-Education Council at Berkeley.

The following day he spoke at the Electronic Industries Association Winter Conference meeting in San Francisco. Horne is president of EIA.

Value Control Seminar Held

(Continued from Page 3)

quip, Robert Shaw Fulton, La Mesa Tool.

The capsule 24-hour course, concluded last Thursday, saw all delegates receiving an intensive briefing on key value control techniques, with actual workshop projects assigned for concrete application.

E. D. Heller, division value control coordinator for GD/Pomona, spoke at the opening day session on importance of defining and evaluating "function" as basis of value control approach and efficient job planning as a part of the material he covered under the subject, "Value Engineering Approach."

Others playing major roles in the seminar were C. S. Brandt, C. K. Twohey, G. W. Zahrte, Harry Rote. Project leaders for the three workshop teams were John Hoover, Gene Catton, George Axt. All are GD/Convair.

GD/Convair departmental value control coordinators laid the groundwork and assisted during the special seminar. They are: G. P. Williams, administration; S. W. Swenson, engineering; B. W. Kahla, industrial engineering; E. P. Pennebaker, marketing; Les Hawson, public relations; W. D. Lavis, factory; W. G. Martin, tooling; W. H. Goggin, industrial relations; Charles Wallman, quality control and production flight; Al Vernon, controller's office; D. L. Macey, material and production services, with Joe Freeman and H. A. Billings of procurement and purchasing, assisting in training.

Germeraad Speaks In Lecture Series

D. P. Germeraad, chief engineering test pilot at General Dynamics/Convair, was one of the initial speakers in the current "Meet the Scientist" lecture series for the San Diego area high school students.

Germeraad's talk before students of Taft Junior High School late last month dealt with "Flight Testing from the Pilot's Viewpoint."



VOTE GETTER — Astronautics' entry in Vandenberg AFB Fire Prevention Queen contest was pert Anita Holmdahl, Dept. 576-6 stenographer. Opinion was Anita might start more "fires" than she put out, but she did help draw attention to event.

Electric Boat To Launch New Polaris Sub

The nation's newest Polaris missile-firing submarine, named for a patriot from Connecticut who died for his country, will be launched Jan. 12 at General Dynamics/Electric Boat, Groton, Conn.

The nuclear-powered ship will be christened Nathan Hale by Mrs. George W. Anderson Jr., wife of the U. S. Chief of Naval Operations.

Sister-ship of the prototype Lafayette, launched here May 8 and the Alexander Hamilton, which slid down the ways at Electric Boat on August 18, the blimp-shaped Nathan Hale is 425 feet long and displaces 7,000 tons.

It is the 14th nuclear-powered submarine launched at the Groton shipyard and the seventh of these to be Polaris-armed. The ship will be equipped for underwater launching of the 1,500-mile-range Polaris missile and the 2,500-mile missile now under development.





REMEMBER WHEN?—Probably not, but costumes in upper photo were rage in "Roaring Twenties" which GD/Astro Wives Club at Cape Canaveral recalled at party recently. Girls are, from left, Liz Williams, Trudy Becker, Bernice Finney, Mary Larson, Evelyn Jaeger, Emily Lynch, Evie Poole. In lower photo, Don Williams and Fred Weyher belt out a tune on banjos.

Classmates at College Reunited, As Scientists for Dynamics

Four German scientists, all former classmates at West Germany's University of Aachen, have renewed alma mater ties again halfway around the world as one by one they arrived in San Diego where all are now connected with General Dynamics/Astronautics.

All but one came to General Dynamics without knowledge of the others' whereabouts.

K. G. P. Sulzmann, staff scientist in GD/Astro space science section, was first of the foursome to reach the West Coast and join the company about five years ago. His enthusiastic accounts of Southern California encouraged Dr. C. B. Ludwig, also GD/Astro 596-2 staff scientist, to trek west a year later.

Johannes Wissmann, now in GD/Astro dynamics, arrived about the same time as Sulzmann, without knowing he had a fellow alumnus in the area.

All three were first with the former "foreign legion" while awaiting clearance. Then, Ludwig and Sulzmann went into the GD/Convair physics section and Wissmann into GD/Convair structures engineering.

Latest recruit of the University of Aachen alumni "chapter" is Hubert K. Lintz of GD/Astro applied research. When he landed at General Dynamics, also with the GD/Convair physics group a little over a year ago, he had a ready-made welcoming committee on hand — Ludwig, Sulzmann, and Wissmann.

The unexpected reunion brought back vivid memories of the years they had spent together at the German university in the early '50s when Ludwig was working toward his doctorate and Sulzmann and Lintz, their master's degrees, all in physics; and Wissmann, a master's in mechanical engineering.



AACHEN "ALUMNI"—GD/Astro scientists, from left, Johannes Wissmann, Hubert Lintz, Dr. Claus B. Ludwig, Klaus Sulzmann, all graduates of Germany's University of Aachen, renew ties at San Diego.

'Stromberg-Carlson' Equipment Installed For Dulles Jetport

When President Kennedy's plane begins using the new Dulles International Airport, all telephone calls that the Chief Executive makes from there to the Pentagon or White House will be placed over "Stromberg-Carlson" equipment.

General Dynamics/Telecommunication has designed and manufactured the entire central telephone office for the new international jetport.

The huge jetport, named for the late Secretary of State John Foster Dulles, is an architectural masterpiece with a 178-foot high control tower and a 600-foot long terminal building. Under the graceful hanging roof that is suspended between supporting columns will be airlines and government offices. "Stromberg-Carlson" telephones, some of them with special adaptations, will be used throughout.

The central office equipment—an XY dial system—is being operated by Piedmont Telephone Co. The 1,340-line, 1,400-terminal central dial office is set up in the communications and weather building at Dulles.

Now President Kennedy and top government officials can dial directly the 30 miles to Washington and be connected to the government's internal telephone network.

Airlines are getting ready to move offices into the jetport and are asking for "Stromberg-Carlson" equipment.



JET AGE—General Dynamics/Telecommunication President John Voss makes call on new multiline phone system installed at Dulles International Airport as T. C. Watson, vice president-sales, checks him out.

Servovalve Orders Total $1 Million

Moog Servocontrols, Inc., of East Aurora, N. Y., has announced receipt of an order of about $1 million from General Dynamics/Pomona.

The order is for electrohydraulic servovalves, key components in the flight control system of the Navy's Advanced Terrier/Tartar guided missiles. The Advanced Terrier/Tartar surface-to-air missiles are carried on ships as a defense against aircraft. Moog servovalves are also employed on the missile's launching equipment.

Warning on Buffalo Recalled by Retiree

A letter to **General Dynamics NEWS** from Garland Mitchell of Big Sur, Calif., who retired from GD/Astronautics in 1957, carries comment on a two-page spread on Warren AFB and its Atlas missiles that appeared in **GD/NEWS** of Nov. 7.

"I might add to your interesting articles on Warren AFB a piece of information that I recall concerning the post when it was the cavalry's Fort D. A. Russell. There was a sign in one of the barracks—and it may still be there—that read: 'Positively no shooting buffalo from the porches.'"

Venus Fly-By For Mariner Set For Dec. 14

Chalking up new space records with every hour of operation, the Mariner II spacecraft this week is speeding toward an important fly-by of Venus now set for Dec. 14.

Atlas 179-D and Agena B stage were used to send Mariner II on its ambitious journey through space. Launch was from Cape Canaveral on Aug. 27 with General Dynamics/Astronautics' Orien Reed serving as site manager (formerly test conductor).

Except for an eight-day period when instruments were turned off to conserve power, Mariner II has been transmitting data continuously, 24 hours per day.

This engineering data—pressures, temperatures, voltages—reports on the status of the spacecraft's various systems. Four experiments are being conducted en route to Venus. They are the measuring of magnetic fields in space—cosmic dust density, energy, distribution and variations of charged particles—and the extent, variations and mechanism of solar corona.

On Dec. 14 Mariner II is slated to fly past Venus at a distance of 20,900 miles and measure microwave and infrared emissions from the planet. These experiments will be automatically activated 10 hours in advance of the fly-by.

One of the important objectives of the mission is to determine the temperatures of the atmosphere and surface of Venus.

Mariner II has broken all previous space probe records for both useable data transmitted from great distances and the distance over which information has been transmitted.

Quality Symposium Will Hear Papers Of Dynamics Men

Additional papers prepared by General Dynamics personnel have been accepted for presentation during the Ninth National Symposium on Reliability and Quality Control Jan. 22-24 in San Francisco.

P. J. Orth of GD/Astronautics will present a paper titled "A Monte Carlo technique for combining subsystem test data to estimate system reliability" on Jan. 22.

"Head, human factors and maintainability — space launch vehicles" will be presented Jan. 23 by Astro's David Meister.

J. Y. McClure, General Dynamics director of reliability and quality control, will present a paper prepared with Astro's E. S. Winlund Jan. 24. It is titled "Design review, a philosophy, survey and policy."

GD/E Men 'Go to Sea,' Visit Missile Ship

Five General Dynamics/Electronics men "went to sea" along with other San Diego Chapter members of the Armed Forces Communications and Electronics Association last month.

Members were taken aboard the USS Dixie, flagship of Rear Adm. Frank Virden, USN, Commander Cruisers-Destroyers Pacific Fleet, and the guided-missile destroyer USS Towers (DDG-9), commanded by Cdr. J. D. Cummins, as their Nov. 13 monthly session.

John Orthel of GD/E plans and programs, current president of the local AFCEA chapter, headed the GD/E delegation. Others were Max Frank and James Hamill of GD/E technical publications, Plant 1; J. C. Kogan, technical publications, Plant 2 (Hancock St.); Rex Brouillard, GD/E plans and programs.

Save Material—Don't Throw Your Job Away!

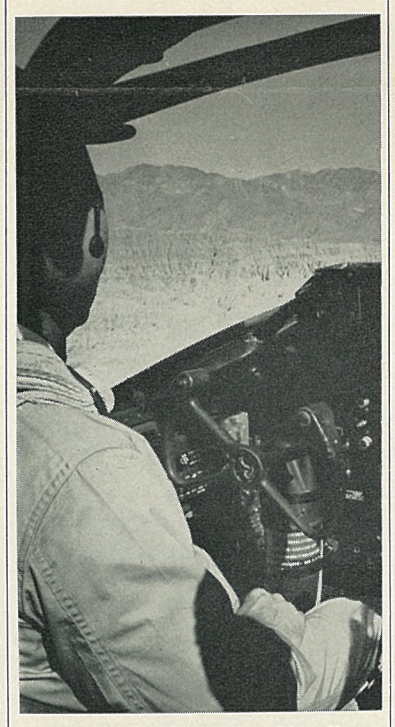


THERE IT IS—Roger L. Olson, GD/Electronics project engineer (center), points out location of GD/E terrain avoidance radar system to Bill Hartley, San Diego Evening Tribune military writer, before demonstration flight. At left is Pilot James Bissell who was at controls of B-26 during series of evaluation flights during last two weeks.

Aircraft Experts See 'Roller-Coaster' Test

Military and commercial aircraft experts from all over the United States gathered at San Diego during the last two weeks for evaluation in actual flight of the terrain avoidance radar system developed by General Dynamics/Electronics—San Diego.

Twenty flights were made in the 10-day period over rugged terrain inland from the coast in the first fully-automatic, low-level flights to demonstrate the terrain-following radar system.



NO HANDS!—Pilot Bissell relaxes while GD/E radar system automatically keeps plane at safe distance above rough terrain.

Pilot James Bissell, who has flown 130 flights in aircraft equipped with GD/Electronics' terrain avoidance radar, took his passengers over desert, sea, and mountain ranges to prove that the automatic, electronic system, with no help from him, will keep the plane a safe distance above any obstacle beneath.

Flights, made in a converted B-26 bomber, were at 400 feet above the ground, although altitudes of 200 feet are possible with safety.

Typical of comments coming from the demonstrations was that of Maj. R. T. Starke, Tactical Air Command, Langley, Va.; "After 10 minutes of low-level automatic flight, the ride gets boring!" Major Starke went on to indicate that the monotony was caused by the smoothness of operation and reliability of the system.

Capt. G. H. Sult, director of Weapon Systems Test, NAS, Patuxent River, Md., was another who expressed his pleasure with the flight test.

Other evaluators came from Naval Air Developmental Center, Johnsville, Pa.; Cornell Aeronautical Laboratory, Buffalo, N.Y.; Aeronautical Systems Division, Wright-Patterson AFB, Ohio; Naval Ordnance Test Station, China Lake, Calif.; ComNavAirPac, North Island NAS, Calif.; Miramar NAS, Calif.; Royal Canadian Air Force; Norair, Division of Northrop Corp.; Radio Plane Division, Northrop — Ventura; Ryan Aeronautic Co.; Boeing Co., Seattle, Wash., and Wichita, Kan., headquarters; Douglas Aircraft Co., Inc.; Grumman Aircraft Engineering Corp., Long Island, N.Y.

Demonstration flights were given during the same time to members of the press, television, and radio.

Flying at 250 to 350 miles per hour, the B-26 followed a roller coaster course only a few hundred feet above mountains, deserts, and open water. In one 15-mile stretch of the test course, the terrain ranges from an altitude of 6,000 feet to the Salton Sea which is below sea level.

Before the recent fully-automatic flights, pilots had tested the system on a slower aircraft, a converted B-25. Both the B-26 and B-25 were leased by GD/Electronics from Tallmantz Aviation Co. of Santa Ana, Calif.

During manual test flights the pilot always remained in direct control. Instead of issuing commands to the autopilot, the radar system operated a simple instrument which signaled the pilot when to climb or descend to maintain the pre-set altitude.

The system now operates either automatically or in the manual mode. The system can fly the aircraft automatically for an indefinite period. To date, Bissell has hedgehopped for periods up to 50 minutes without touching the controls.

Purpose of the system is to aid aircraft and drones to fly safely at low altitudes across any terrain, in fog, rain, or at night. In military applications it will enable pilots to escape detection by flying below enemy early-warning radar beams, regardless of visibility. Both commercial and military aircraft can use the system for blind letdowns.

Coordinating demonstrations was J. E. Bowen of GD/E plans and programs. R. L. Olson, terrain avoidance radar project engineer, accompanied all flights. In charge of development of the system are J. L. Brooks, airborne radar engineering manager, and R. F. Schillinger, assistant manager.

All Dynamics Folk Encouraged To Attend Annual Game Draw

A five-star program will be on tap the night of the annual Big Game Drawing next Tuesday (Dec. 11) at Gillespie Field Clubhouse, 7:30 p.m.

All Convair, Electronics, Astro people, and their friends, are welcome to attend the jam-packed evening, sponsored by ARA-CRA Gun Club, emphasizes CRA Commissioner Jack Swank.

Some big game hunter will carry off first prize, a .308-cal. Remington auto-loading rifle. Second prize will be a camera, and a wide variety of hunting accessories, such as knives, socks, etc., will go to other lucky ticket holders.

"Everyone at any General Dynamics division in San Diego who has bagged a big kill this year, is urged to turn in his entry at once to be eligible for the drawing," said Swank. "Number of entries will determine the number of prizes."

Entries can be submitted at Astro or Convair employee services outlets, Electronics' industrial relations offices, Plant 1 and Plant 2 (Hancock St.), and to Swank.

Following the highlight of the evening, a film on big game hunting will be shown and Capt. John Roumasset of the California Department of Fish and Game will speak.

Awards will be handed out to "most improved shooter" of the year; to winners of the monthly skeet, rifle, trap shoot; and certificates to graduates of the recently-concluded hunter safety class.

Astro, Convair GD/E to Shoot For Prize List

Turkeys, hams, and bourbon will be "targets" at ARA-CRA Gun Club's annual Christmas skeet and trap shoot Sunday morning, Dec. 16, at Gillespie Field range.

All Astro, Electronics, Convair gun enthusiasts, their families and friends, are urged to be on hand to try their skill and luck as the opening round is fired at 9 a.m.

Five-man squads will be formed with a prize for best shot in each squad. Classes will be open to men, women, youngsters, either experienced or beginners. Families and friends may form their own squads.

CRA Commissioner Jack Swank and ARA Commissioner Ezra Johnson stress the fact that the Gun Club's facilities are available to all General Dynamics people.

Ranges at the Gillespie Field location, just west of El Cajon, include four trap ranges, two lighted; two skeet ranges; two small-bore rifle ranges.

Trap and skeet shoots are held first Sunday of each month from 9 a.m. to 2 p.m., and trap shoots Wednesday and Friday evenings, 7-10 p.m. Rifle practice can be done any time during the week and on weekends.

General Dynamics' people are charged only a nominal fee of 50 cents for trap and skeet shooting during daytime hours; 75 cents in the evening.

Guns are available at the range for use without charge and instruction is given to anyone wishing to learn.

Toastmasters Host Finals For Contest

Dynamics Toastmasters Club #457 hosted the finals of the high school speech contest, sponsored annually by Toastmasters International Area 5, at the group's Nov. 15 meeting in the Convair executive dining room.

Championship trophy went to Susan Sparks, with Stephen Hasbrouck named runner-up. Third contestant was Lana Ayres. All are El Cajon Valley High School students, coached by Mrs. Barbara Brooks, speech instructor, who was on the sidelines during the extemporaneous speech battle.

Susan was to go on to the District 5 speak-off Nov. 30 to pit her speaking ability against the other seven area winners, representing San Diego and Imperial counties.

Judges at the Area 5 finals were Larry Sweeney, GD/Convair; Ed Wynn and Cy Campbell, both GD/Astro. Campbell is current governor of District 5.

R. C. Emerson of GD/Astro chaired the meeting in his capacity as Dynamic Toastmasters' president and Ken Samples of GD/Convair, and Area 5 governor, acted as toastmaster for the special event.

The Dynamics group, open to all General Dynamics men in the San Diego area, holds regular sessions each Thursday evening in the Convair executive dining room, Pacific Hwy. Management clubs at both GD/Convair and GD/Astro encourage their members to participate by defraying part of the club fees. Anyone interested in improving his public speaking skill is urged to call Sweeney at ext. 1687, Plant 1.

Both Salvage Yards Close Xmas Weekend

Salvage yards at both GD/Convair and GD/Astronautics will suspend operations during the coming holiday weekends. Neither will be open for employee sales on the Saturdays preceding Christmas and New Year's.

Schedule is:
GD/Convair—Dec. 8, Jan. 5.
GD/Astro—Dec. 15, Jan. 12.



DECORATIVE—Recently Prophet Co., serving General Dynamics personnel in San Diego, entered Food Executives Association Culinary Art Show along with 60 other firms. Prophet won second in salad decoration, third in fruit plates and fourth in cakes, only categories entered. Gil Hutter, cafeteria manager at Astro, and salad makers Vie Sunday, left, and Lucille Gutierrez show off trophy.



GETTING SET—Archery commissioners, Al Stone of Astro and Al Phipps of Convair, lay final plans for coming IRC archery tourney open to all General Dynamics bowmen. Tournament date is Dec. 9 at Morley Field range.

ARA and CRA Spanish Students Will Make Gifts to Newsboys

Spanish students of the ARA-CRA-sponsored classes will be both giving and receiving at two Christmas functions in the Mexican mode on a coming weekend.

First, and most important, they will go across the border on Dec. 15 to share their Christmas bounty with others less fortunate. The next day they will gather at a "posada," or holiday gathering, of their own.

Clothing, food, and toys will be distributed on the Saturday date to Tijuana newsboys of all ages, called "voceadores," or literally, "shouters" for newspapers. The good will gathering will take place at 1 p.m. in the distribution area of Tijuana's El Mexicano newspaper plant on the corner of First and Revolucion Sts.

According to Jim Hardison of GD/Convair, instructor of the Spanish courses, these newsboys, ranging in age from 5 to 75, are particularly worthy of help. Many of them support themselves and families on the small amounts they earn selling newspapers.

Anyone wishing to donate articles may meet at the newspaper site, or call Hardison at 276-5805 or Evelyn Soulé, 278-4537, for pick up of presents.

The classes' Christmas party will be the next day, Sunday (Dec. 16), at Tijuana Country Club. Dinner will be at 6:30 p.m. followed by Mexican songs and entertainment until 10:30.

Reservations at $6 per person may be made by contacting Mrs. Soulé at her home phone in the evenings.

Gardeners Gather For Joint Party At Astro Clubhouse

ARA-CRA gardeners will gather at 7:30 p.m. today (Dec. 5) for a joint Christmas party in ARA Clubhouse.

Commissioners E. L. Zimmerman and Everett Henderson have announced a program which includes games, door prizes, movies, cartoons and gifts for children.

Members of both GD/Convair and GD/Astro Garden Clubs will vie for nine turkeys; then participate in a gift exchange for which each person has been asked to bring a gift suitable for him or herself, and valued at not more than $1.

"This will be our biggest meeting of the year," Zimmerman and Henderson agreed. "The session will be all fun, no business."

Archers to Compete In Industrial Meet

General Dynamics archers will be twanging their bows in competition with other industrial William Tells at the annual Industrial Recreational Council tournament this Sunday (Dec. 9).

Starting time for the handicap shoot will be 10 a.m. at Morley Field Archery Range in Balboa Park, reminded CRA Commissioner Al Phipps and ARA Commissioner Al Stone.

Phipps and Stone had responsibility for all arrangements for the yearly event which is open to GD/Convair, GD/Astro, GD/Electronics people, together with all others connected with company members of the IRC.

Bargain-Rate Trees Offered

Christmas trees, at bargain-rate prices, will go on sale next week for General Dynamics people.

Sales begin next Friday (Dec. 14) and will continue through Sunday (Dec. 23) at the CRA Clubhouse on Pacific Hwy., across from GD/Convair Plant 1. Hours will be from 10 a.m. to 9 p.m. each day.

W. E. Rickman of The Prophet Co. said that prime farm-grown trees will be available at about one-third below usual retail prices.

Douglas fir, silver tip, and white pine trees may be purchased at prices ranging from $1 to $5.

Parking lots adjacent to the Clubhouse will be open to shoppers after normal shift hours.

Early Ticket Sales Brisk For Annual Club Xmas Dance

Early ticket sales show that GD/Convair and GD/Electronics Management Club members are looking forward to celebrating the holiday season at the club's annual Christmas Dance, Dec. 15.

Members will dance to Grady Howard's orchestra in the Fleet Room of Del Webb's OceanHouse, Pacific Hwy., from 9 p.m. to 1 a.m.

L. G. Lawson, general chairman, credits the enthusiasm shown at the fall Management Club dance, held at the same site in September, as responsible for the early rush for tickets.

Entire price for the holiday occasion is $3 a couple. Refreshments will be served, and raffle and other prizes given away.

E. R. Fink, president, extends a cordial invitation to all GD/Convair and GD/Electronics members to join in the festivities, hosted by the board of control. Tickets will be on sale throughout this and next week at all regular outlets.

Lockwood Speaker On 'Decision Making'

John T. Lockwood, GD/Astro management development specialist (Dept. 130-3), last week made the concluding presentation in a series of management development sessions conducted by California State Employees' Association.

Christmas Dinner For $1 Offered

Turkey and all the trimmings will be on the menu for General Dynamics diners at all GD/Convair and GD/Astro cafeterias Thursday, Dec. 20.

The Prophet Co. is offering a special Christmas dinner at the flat rate of $1.

Dinner will include roast turkey, dressing, whipped potatoes, giblet gravy, buttered peas, tossed green salad and dressing, cranberries, roll and butter, choice of mince or pumpkin pie, beverage.

DYNAMICS MEDICOS ATTEND CONFERENCE

Seventeen from medical staffs at GD/Convair and GD/Astro were among the 75 from Southern California points attending the Medical Management dinner meeting sponsored by the San Diego Industrial Nurses Association late last month at the OceanHouse.

"Industrial Nurses Expectations, and the Needs of Management and Medical," were discussed by Dr. Clarence L. Lloyd, corporate medical director of North American Aviation Corp., featured speaker.

Representing GD/Convair were Dr. G. M. Clarke, chief physician; Charles Taylor; Lorna Payne, president of the SD Industrial Nurses Association; Jeannette George, Olga Fort, Georgette Horton, Dorothy Scrivener.

Dr. A. J. Bellanca, chief physician, headed GD/Astro's contingent. Others were Ardys Smith, Helen Werdelman, Doris Williams, Lorene Miller, Jeanne Lutz, Maude Painter, Helen Flannagan, Gladys Fuller, and Rose Baylor of Sycamore test site.

GD/E Personnel In Time Study

Production engineering personnel at GD/Electronics are learning the fundamentals of time study in a current training program.

Twice-a-week sessions of two hours each began Nov. 27 for 24 people divided into two groups. Classes will continue for four weeks.

In explaining purpose of the training, E. A. Morash of GD/E production engineering, said, "It takes a lot of experience and study to develop the ability to rate human operations accurately. This training will give our people a better understanding of the basic factors and techniques involved, as well as actual practice in stop-watch timing."

Morash, who is responsible for production standards and performance measurements, was assisted by GD/Convair educational services in organization of the instruction program.

Remember! Get Your Type II Vaccine

General Dynamics families in the San Diego area are reminded that next Sunday (Dec. 9) is last day to get their Type II Sabin oral vaccine for polio protection.

Ninety clinics will be open throughout the county from 11 a.m. to 6 p.m. Only a nominal fee of 25 cents a person is charged.

Even those who failed to get Type I in October are urged to take Type II now. They may then obtain Type I from their family physicians.

Nurses Participate In Candy Campaign

Nurses at GD/Astro and GD/Convair are participating in candy sales conducted by San Diego Industrial Nurses' Association to raise money for educational and charitable projects.

Orders for two types of candy at $1 and $1.50 may be placed with GD/Astro nurses Lorene Miller (BR-8-4627) and Helen Werdelman (GA-2-2254), or Lorna Payne (JU-2-1845) and Alvina Sult (CO-4-9085) of GD/Convair. Dec. 11 is tentative delivery date.

Sports & Recreation

Road Runners Trek to Hemet For Mid-Nov. Trailer Rally

Fifty-five members and guests of CRA Road Runners traveled to Hemet in mid-November to join in the large trailer rally sponsored by Hemet and San Jacinto Chambers of Commerce.

GD/Convair trailerites, with 16 vehicles, were a part of the gathering which saw a mass of travelers and 1,600 trailers from all over Southern California camping near the desert town over the weekend of Nov. 16-18.

The CRA club float attracted plenty of attention in the parade down the city's main street on Saturday morning. Members also took part in other rally events, including the club costume parade and apron contest. The GD/Convair group celebrated birthdays and anniversaries at their Saturday night potluck with Rolland Lathrup and Ruth Peterson winning the turkeys given by CRA.

Among events coming up for the Road Runners is an outing to Blair Valley in the Anza-Borrego area this weekend (Dec. 7-9). George Graham is in charge as wagonmaster, assisted by Bill Hamilton.

Plans now are under way for the annual Christmas party Dec. 21 at Gillespie Field Clubhouse.

Elmer Becker, Hamilton, and George Hurley Jr. have been named club delegates to the Travel Trailer Clubs of America. Serving as alternates are Frank Greif, Harold Perkins, Ray Hanson.

Riders Slate Christmas Fete

CRA Riding Club's annual Christmas party will be held Dec. 15, with final arrangements to be made at a meeting at 7:30 p.m. tomorrow (Dec. 6) at Gillespie Field Clubhouse.

"This year's Christmas party will be limited to Riding Club members and their families," said Tommy Thomason, club president. "The affair will get under way at 6 p.m. at the Clubhouse, continuing to 11 p.m."

A 7 p.m. potluck supper will open festivities. A $1 gift exchange will be held, and Santa Claus will make a special appearance with gifts for youngsters. Also scheduled are games, and dancing to music of the Convair Color Guard combo.

Last month, the Color Guard was honored with selection to lead the annual Cattle Call Parade at Brawley.

SKIING CONTINUES ON PHONE BASIS

Water skiing on Mission Bay waters is continuing on a phone-call basis as long as there are enough people interested, said CRA Commissioner Gene Sevigny. Call Sevigny at ext. 1657, or Jack Loos, ext. 2456, both Plant 1.

CONVAIR EAGLES WIN FIRST PRE-SEASON TILT

In opening round last week of the pre-season Industrial basketball tourney Convair Eagles, captained by Dee Trepanier, downed a Navy FAETUPAC squad, 65-30.

SHOP BASKETBALL LEAGUE IN ACTION

Opening tilts in GD/Convair shop basketball league saw Dept. 91, Electronics, and Thirty-Niners taking decisive wins.

Dept. 91 basket shooters downed Hi-Lows, 19-10; while Electronics beat Rose Canyon, 37-31; and Thirty-Niners took their game with Dept. 16 by 41-31.

Second games in first-half play were set for last night (Dec. 4) in Balboa Park's Muni Gym.

Next Tuesday (Dec. 11) GD/E meets Thirty-Niners; Hi-Lows play Rose Canyon; and Dept. 91 will vie with Dept. 16. Electronics has a bye.

Game times are 6:50, 7:55, 9 o'clock with spectators welcome.

Rockhound Shack Closing to Jan. 8

Rockhound Shack on Pacific Hwy., across from Plant 1, will be closed throughout the holiday weeks, said CRA Commissioner Dan Whorton.

No lapidary classes will be held after Dec. 18 until the Shack reopens on Jan. 8. Regular Tuesday instruction will be continued, after the first of the year, for both day and night shift people. First-shift classes are 7-9 p.m.; second-shift, 12:30-2:30 p.m.

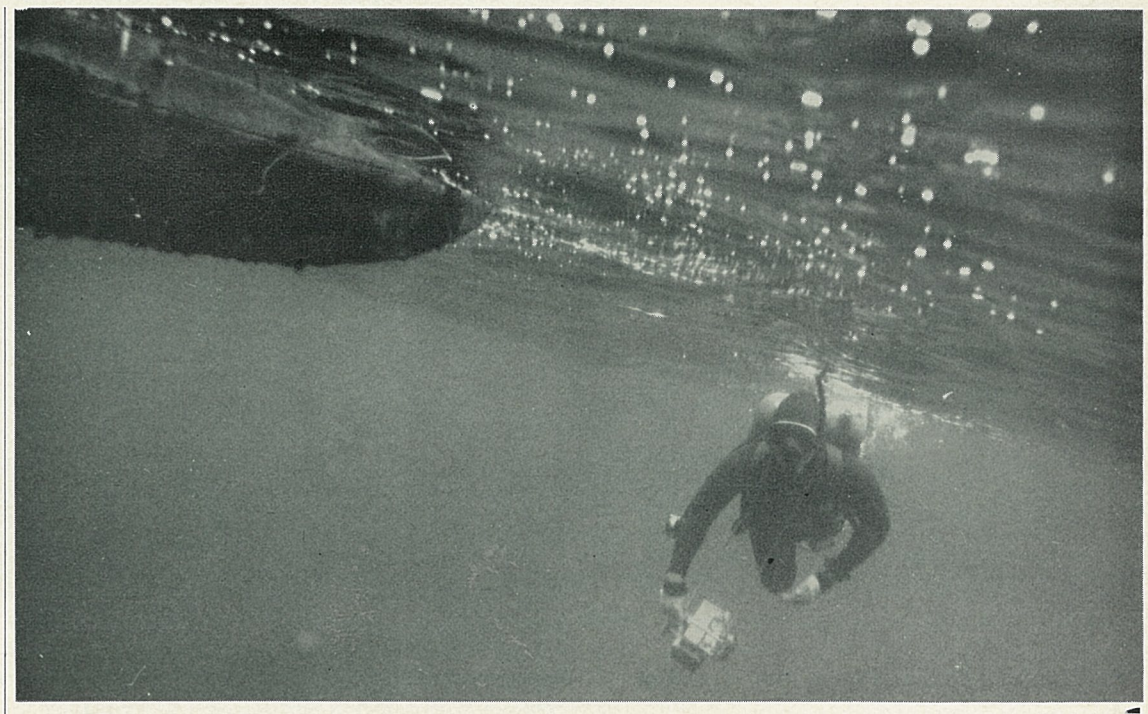
Annual Christmas party of the Rockhounds will be Dec. 13 at Gillespie Field Clubhouse with a gift exchange and movies for the children. Time is 7:30 p.m.

Hugh Rae Triumphs In Horseshoe Toss

Hugh Rae, unofficial "athletic director" of GD/Convair fire department who usually manages to top the field in most of the fire chasers' sports contests, has proved himself an expert in the latest competition—horseshoes.

Rae tossed the best 6 out of 11 games to beat out Paul Gute in the finals. Gute, second-shift winner, had downed Gerald Vosburgh, third-shift champ, in semi-finals. Rae represented the day-shift crew.

Altogether, 30 firemen participated in the first horseshoe tourney during off-hours at the pits set up near Bldg. 43. Matches, held over a six-week period, were climaxed by the Nov. 24 championship event.



SOGGY SNAPSHOT—Underwater photography is of growing interest for Astro Divers, ARA skin-diving club. Member Bob Nicholas used club-owned camera in underwater housing to take this shot of fellow SCUBA enthusiast.

John Barrett Coin Nominee

CRA Coin Club members were presented a tentative slate of officers for the coming club term at the Nov. 15 meeting.

Nominees are John Barrett of GD/Electronics, president; E. L. Lampe (Dept. 171), vice president; M. H. Monroe (Dept. 15-6), secretary-treasurer.

Election will be held Dec. 20 with other nominations accepted from the floor.

Also planned for the December meeting, in Convair main cafeteria, is a Christmas gift exchange. All presents are to be numismatic material, value not to exceed $1.

A slide program, "A Day at the Mint," will be shown during the evening and some lucky person will take home the ham to be given as door prize. Meeting time is 7:30 p.m.

Turkeys Distributed By Recreation Clubs

Thanksgiving turkeys, traditionally given as prizes by Convair Recreation Association each year, went to 50 lucky winners in the various CRA activities.

GD/Convair and GD/Electronics people in 15 groups took home their Thanksgiving dinners, either by luck or skill.

Clubs giving the holiday birds were: Archery, 2; Bridge, 1; Bowling, 17; Coin Club, 1; Delta Divers, 1; Fishing, 2; Garden Club, 7; Golf, 8; Model Railroad, 1; Radio, 1; Riding Club, 2; Rockhounds, 2; Pistol Club, 2; Ski Club, 1; Road Runners, 2.

Club Will Determine Year's Best Photos

Winners of CRA Camera Club's quarterly contests during the year are urged to submit their entries at next week's (Dec. 10) championship judging.

Best black and white print and best color slide of the year will be chosen from quarterly winners.

Meeting will be in the Photo Arts Bldg., Balboa Park, at 7:30 p.m.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

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AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. to 1 p.m., Clairemont Mesa flying site.

ARCHERY — IRC tournament Dec. 9, 10 a.m., Morley Field Range, Balboa Park.

BASKETBALL — Shop league games Tuesday nights, Muni Gym, Balboa Park.

BRIDGE CLUB — General Dynamics players invited to weekly sessions, Tuesdays, 7:30 p.m., Barcelona Hotel, Fourth and Juniper Sts.

CAMERA CLUB—"Print and slide of year" contest Dec. 10, 7:30 p.m., Photo Arts Bldg., Balboa Park.

COIN CLUB—Election of officers and Christmas party, Dec. 20, Convair main cafeteria, 7:30 p.m.

FENCING—Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th & C Sts.

GARDEN CLUB—Joint CRA-ARA Christmas party tonight (Dec. 5) at ARA Clubhouse, Kearny Mesa, 7:30 p.m.

GOLF—Entries close tomorrow (Dec. 6) for CRA tournament at Coronado, Dec. 15-16. Call ext. 1705, Plant 1, for starting times.

GUN CLUB—Big Game drawing Dec. 11, 7:30 p.m., Gillespie Field Clubhouse. Annual open Christmas shoot Dec. 16 at Gillespie Field Range.

ICE SKATING — Skate night Thursdays at Iceland, 6055 Lake Murray Blvd. Special rates for General Dynamics skaters, 6:30-8 p.m.

JUDO — Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES—Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission: adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Regular matches Dec. 9, 9:15 a.m., SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow night (Dec. 6) at Harbor Drive headquarters, 8 p.m.

ROAD RUNNERS — Weekend outing Dec. 7-9 to Blair Valley in Anza-Borrego area. Annual Christmas party Dec. 21, Gillespie Field Clubhouse.

ROCKHOUNDS — Annual Christmas party Dec. 13, Gillespie Field Clubhouse, 7:30 p.m. Rockhound Shack closed after Dec. 18 until Jan. 8.

RIDING CLUB — Meeting tomorrow (Dec. 6) Gillespie Field Clubhouse, 7:30 p.m. Annual family Christmas party Dec. 15, Gillespie Field Clubhouse, 6-11 p.m.

SPORTS CAR CLUB—Regular meeting tomorrow (Dec. 7), 7:30 p.m., Convair executive dining room, Pacific Hwy.

WATER SKI CLUB — Weekend skiing on phone-call basis. Call Gene Sevigny, ext. 1657, or Jack Loos, ext. 2456, both Plant 1.

'PERENNIALS' PLACE IN MASTER CLASS

CRA Pistol Club perennials, Joe Williamson, Vern Mardis, Jim Halfacre, stood one-two-three in the Nov. 25 master class of the .22-cal. Police Course match.

Williamson (Dept. 401) scored a 293; Mardis (Dept. 34), 288; Halfacre (Dept. 140), 287.

W. G. Walker (Dept. 6) topped the expert class with a 289. Ralph Picard of GD/Electronics was second, 279; Ralph Patterson (Dept. 27), third, 275.

In the center fire Short National event, Halfacre took first with a score of 268. Walker, with 252, was runner-up. Patterson and Picard stood in third and fourth spots with a one-point difference. Patterson scored 251; Picard, 250.

Deadline Tomorrow For Golfing Sign-up

Tomorrow (Dec. 6) is last day for GD/Convair and GD/Electronics linksmen to sign up for the December CRA golf tournament.

The tourney is set for Dec. 15-16 at Coronado. Winners will be awarded hams.

For starting times, call ext. 1705, Plant 1.

Roller Skate Night On First Mondays

Date of roller skate night for General Dynamics families has been changed from the third to the first Monday of each month, said CRA Commissioner Pete Beyrer.

Next monthly skate night will be Jan. 7 at Skateland, Front and G Sts. The present schedule will continue for the next two or three months, said Beyrer.

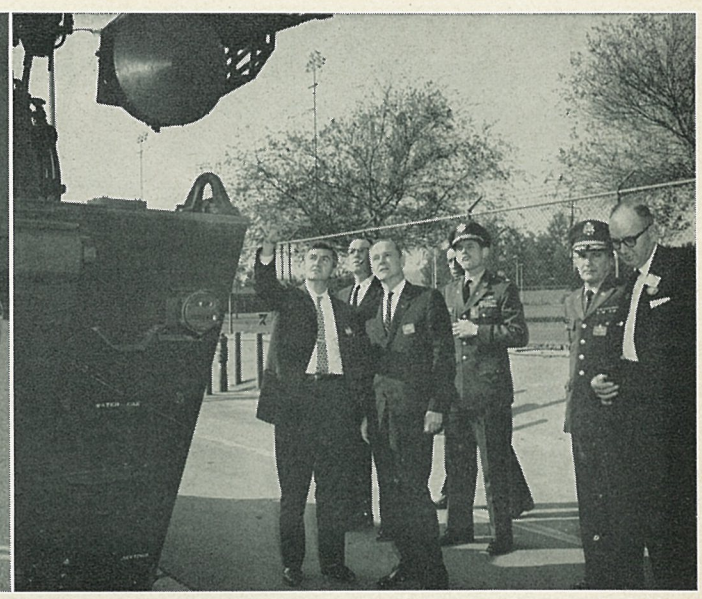




REPRESENTATIVES—Employee Con-Trib-Clubs of General Dynamics divisions in San Diego area were represented at United Fund campaign breakfast at Army-Navy YMCA. In photo at left are Dick Mitchell, left, Larry Janson, Don Glasser, Jerry Schultz (GD/Astro), Frank Philbin (General Atomic), and James Budros (Astro). Right photo shows Dave Haslinger, Dan Graeff, J. L. Wages, Mike Alianelli, John Speed and C. S. DeNardo. Representing R. H. Biron, Budros announced $425,000 gift from General Dynamics employees in San Diego to United Community Services annual drive for benefit of local charitable groups.







ARMY VISITORS—In center, C. F. Horne, GD/Pomona president, greets Dr. Finn J. Larsen, Assistant Secretary of the Army, Research and Development, on mid-November visit for review of Redeye and Mauler programs. At left Horne greets Col. Brookman R. Painter, commanding officer, Los Angeles Procurement District, and Col. Elmer H. Almquist. Photo at right shows J. M. Guthrie, left, assistant director weapon systems engineering (Dept. 7) explaining Mauler.

Cameras Click Every 30 Seconds To Record Radar Conformance

A photographer turned "quick change artist" recently as he kept cameras clicking every 30 seconds for half an hour at a time while recording conformance tests of a General Dynamics/Electronics REINS radar assembly.

When GD/Electronics product test engineers were faced with the task of recording data from 11 meters simultaneously, they solved the problem by calling in the GD/Convair photo lab.

The readings, such as voltage, current and power consumption, had to be absolutely accurate and had to be taken at the exact split second of time, explained Charles Ashworth Jr., GD/E test engineer assigned to the project. Time spent by 11 persons, each trying to take down data from a meter apiece, would pile into a lot of manhours; fatigue or misjudgment of timing could well result in errors and reruns.

A photographic record, caught securely on irrefutable film, seemed the best solution.

GD/Convair cameraman Pete Autio, assigned to the fast-clicking job, used two Rolleiflex cameras and 50 rolls of film, 12 exposures to the roll, to capture the vital statistics. Cameras were reloaded and exchanged without missing a beat.

It took 3 seconds to exchange cameras and clamp on the tripod with a special quick change head developed in the GD/Convair photo lab just for such continuous procedures.

As Autio clamped on the newly-filled camera, Ashworth took over for one click giving the GD/Convair photographer a full minute to reload the second camera and get back to his post for the next exposure. This teamwork interchange continued for 5 hours to complete the entire test.

Ashworth, who reports to B. A. Ledbetter, product test assistant group engineer, was more than satisfied with the photographic recording experiment.

He now has 50 strips of negatives with 600 different dial readings, including a clock with exact time of each reading. He uses a binocular microscope to magnify the images and read off the data. After it is plotted into curves it will be forwarded to North America's Autonetic Division, prime contractor, to comply with Navy requirements.

Product test, under K. W. Strowig, manager, is responsible for checkout of all products built by GD/Electronics to see that they comply functionally with required military and customer specifications. It is a section of reliability and quality control department, directed by H. J. Stuart, manager.

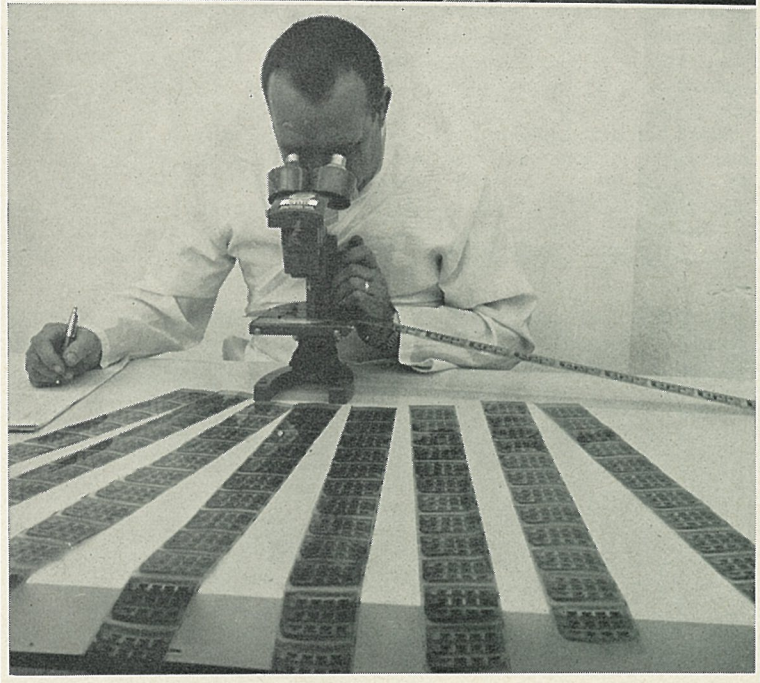
Contract Awarded On Engineering Bldg. At GD/Electric Boat

The Turner Construction Company of New York has been awarded a contract to build a four-story engineering building at General Dynamics/Electric Boat, Groton, Conn.

The brick structure will provide an additional 70,000 square feet of floor space for the design department and nuclear engineering projects. To be built on company-owned property on the west side of Eastern Point Road, the building will adjoin the north side of an existing design department building constructed in 1956.

Construction will begin immediately. The building is scheduled for completion early next spring.





FAST CLICKING—Lensman Pete Autio (top photo) is snapped by GD/Convair cameraman Ernie Flisrand during steady photographing—every 30 seconds—of 11 meters as they record data in GD/Electronics radar assembly conformance checkout. Kneeling at right is Charles Ashworth Jr., GD/E test engineer assigned to data recording project. Below, Ashworth studies film strips under microscope.

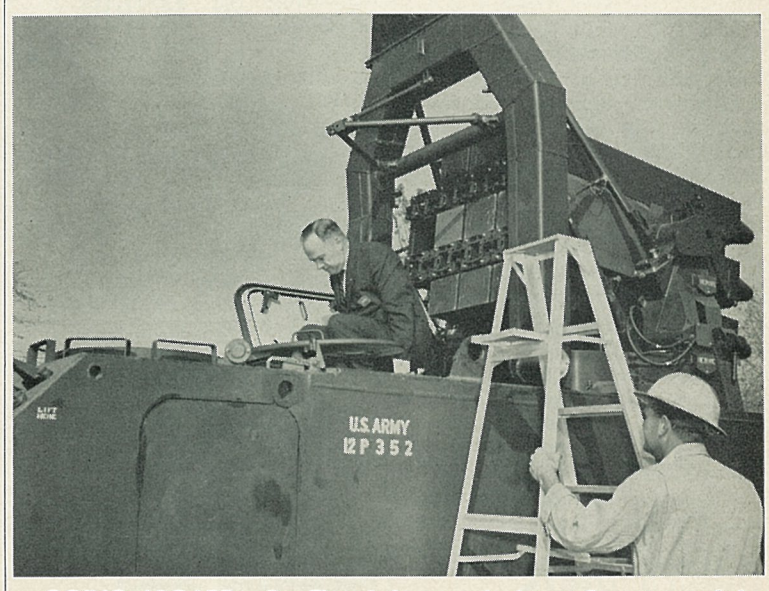
Institute Offering $8,300 Scholarship

General Dynamics employees may be interested in trying for a scholarship for two years of graduate study at Princeton University, offered by the Institute of Aerospace Studies in the field of flight test engineering.

The study fellowship is worth $3,600 the first year and $4,700 the second and must lead to a master's degree or doctorate in engineering. Qualifications include a bachelor's degree in engineering and American citizenship.

Application forms may be obtained from Flight Test, Institute of the Aerospace Sciences, 2 East 64th St., New York 21, N.Y. Requests must be endorsed by a General Dynamics supervisor. Closing date for applications is March 1, 1963.

Astronautics employees may view a brochure describing the fellowship by contacting Dean McCoy in engineering office services.



GOING ABOARD—Dr. Finn J. Larsen, Assistant Secretary of the Army, Research and Development, climbs into operator's compartment of Mauler during visit to GD/Pomona.

Assistant Secretary Larsen Sees Mauler on Pomona Trip

Dr. Finn J. Larsen, Assistant Secretary of the Army, Research and Development, visited General Dynamics/Pomona Nov. 15 as a part of an inspection tour of U. S. Army weapon programs.

Purpose of Dr. Larsen's visit to Pomona was to review Redeye and Mauler programs currently in the development phase.

Redeye is a shoulder-fired weapon designed for anti-aircraft protection of infantrymen. Mauler is a self-propelled weapon system designed for battlefield air defense.

Dr. Larsen was accompanied to Pomona by Col. Elmer H. Almquist, Col. Barton O. Baker and Lt. Col. William O. Perry Jr., from the Department of the Army Staff, Washington, D. C.

Also on the Pomona tour with Dr. Larsen were Col. Brookman R. Painter, commanding officer, and Maj. Joseph M. Saye, adjutant, of Los Angeles Procurement District, Pasadena, and L. L. Gober, deputy project manager, Army Missile command, Redstone Arsenal, Ala.

GD/Astro Working on Problems Of Moon Craft Return to Earth

While considerable emphasis rests on sending manned spacecraft to the moon, General Dynamics/Astronautics has been tabbed for an important role in a related endeavor — getting it safely back!

This is "Project Fire."

Astronautics will integrate all flight vehicles and systems under direction of National Aeronautics and Space Administration's Langley Research Center. This is the initial flight program to be conducted specifically for studying high velocity re-entry problems of spacecraft returning from the moon.

"Project Fire" will utilize an Atlas space launch vehicle, a velocity package (Chance Vought) and a re-entry vehicle (Republic Aviation). Atlas will carry the combination to a desired point in space on the required trajectory, then fire its retrorockets while the remainder of the system continues in free flight. Before re-entry, a 180-rpm spin will be imparted to the system for added stability as the velocity package hurtles the 250-pound, blunt-shaped re-entry package down into the atmosphere at moon-to-earth velocity.

As the re-entry vehicle speeds toward the earth at 25,000 mph, it will transmit data to ground and ship stations on such subjects as heating, materials response and radio blackout.

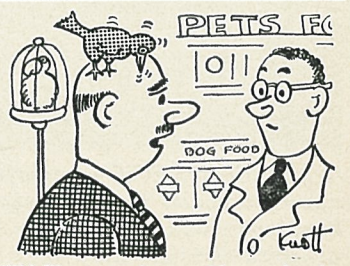
Two launchings are programmed for late 1963. They will begin at Cape Canaveral and terminate 5,200 miles down range over the Atlantic Missile Range.

Astronautics, operating under a contract with the Air Force Space Systems Division, will integrate all flight systems and will conduct launchings, under NASA direction.

At Astronautics, "Project Fire" is under jurisdiction of the space launch vehicle project organization headed by C. S. Ames, vice president and program director. L. E. Munson is assistant program director for "Project Fire."

Langley Research Center has named Herbert A. Wilson as project manager for this effort.

Astronautics will monitor integration and operational activities of the companies involved on all systems and subsystems scheduled for "Project Fire."



"I'd like to exchange this woodpecker for some other kind of pet."

GD

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 15, No. 26 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, December 19, 1962



SIGNED—President J. H. Famme of GD/Convair (seated) affixes signature to formal contract, amounting to over $6 million, with NASA for design and manufacture of Little Joe II launch vehicles in ceremony at Manned Spacecraft Center, Houston, Texas. Standing (left to right) are S. J. Harris, GD/Convair contract manager for Little Joe II; W. W. Petynia, Little Joe project officer (MSC); G. J. Mehailescu, contract negotiator (MSC); C. D. Sword, Apollo procurement chief (MSC); Dudley Digges, GD/Convair manager of contracts; J. B. Hurt, Little Joe II program manager at GD/Convair; and J. M. Fitzpatrick, General Dynamics representative at Houston.

Merry Christmas Convair, GD/E

As the holiday season approaches, I look back on a year during which the loyalty and determination of the men and women of General Dynamics/Convair have been outstanding. I extend my profound thanks for your resolute support.

May the traditional joys of family and sharing be yours during this Christmas season.

J. H. Famme
President,
General Dynamics/Convair

* * *

It is my sincere wish that the holidays will be both joyous and memorable for all members of the General Dynamics/Electronics family at San Diego. In our rejoicing, let us remember the true spirit of Christmas, hopeful that His teachings will continue to bring tolerance and understanding to the world.

John L. Lombardo
General Manager,
General Dynamics/Electronics-San Diego

Five Qualified For '62 Award

Four men and one woman at General Dynamics/Division have qualified for consideration for this year's President's Award, top cost reduction honor, and three others were near the qualifying mark early this month.

Each of the five candidates has to his or her credit CIP dollar savings of well over the $25,000 minimum necessary for eligibility.

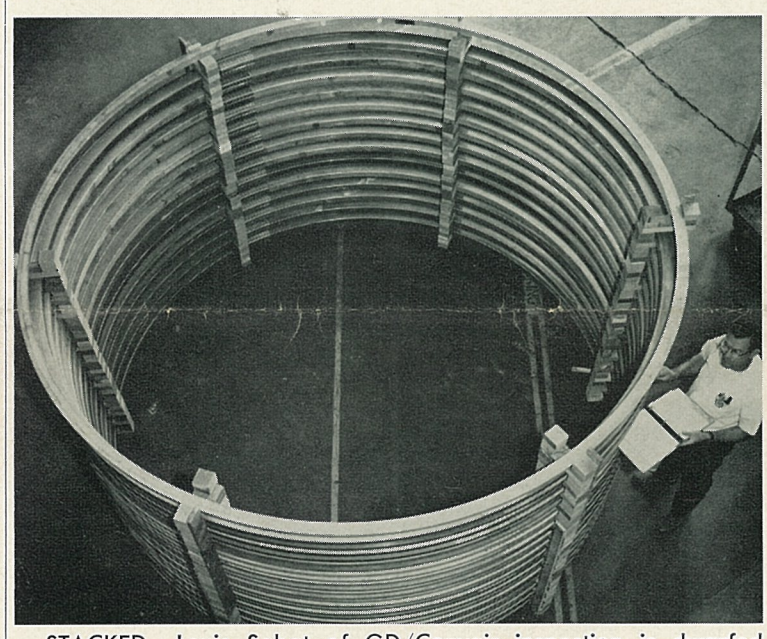
They are: Nick Kosmas (Dept. 34), $47,682; C. D. Dismuke (Dept. 27), $33,720; Mattie C. Ross (Dept. 26), $52,767; R. L. Mellison (Dept. 34), $97,868; W. R. Holmes (Dept. 48), $28,800.

The three almost-rans are S. H. Imdieke (Dept. 3) and G. L. Peyton (Dept. 6), joint proposal, $20,263; J. A. McSparron (Dept. 44), $17,593.

Although total dollar savings is main consideration in selection of the annual President's Award winner, other factors enter into the judging. Final standings also are based on number of CIPs submitted and installed. Originality, ingenuity also are part of overall evaluation.

The award winner is usually announced at a spring Management Club meeting.

Winner receives an individual bronze plaque, and has his name engraved on a similar perpetual plaque in the division president's office. He also receives a certificate facsimile and a $250 merchandise gift of his choice.



STACKED—Louis Sabat of GD/Convair inspection is dwarfed beside stack of belt frames, complete set for one full Little Joe II launch vehicle, waiting assembly in Plant 1's Bldg. 5 area.

Veteran of GD/Convair Offers $500 ES Idea

W. J. Gramse, GD/Convair veteran, put his many years of experience to good use with his Employee Suggestion which will simplify C-141 stretch forming to save the division several thousands of dollars.

He earned himself an extra $500, as well, with half of the total handed him just in time for Christmas (and tax bills, he pointed out).

Gramse's suggestion resulted in a master tool to form all C-141 stringers, eliminating 62 different stretch forms. He worked with tooling in the design of the tool which has already gone into use.

Elimination of the numerous stretch forms, which would amount to $89 apiece in labor and material, is expected to save the division $5,013 and 982 manhours. Cost of the master tool was $523.

Gramse received half of his total award, $250.65, a week ago and will get the other half in six months after a review of actual or additional savings from his idea.

Although this is his first ES award, Gramse has been a frequent contributor of Cost Improvement Proposals during the years he held supervisory positions. He joined the company at Buffalo, N. Y., in 1934 as a helper in rolling mill and has been in sheet metal and related work ever since.



IDEA PAYOFF—W. J. Gramse (Dept. 101), center, receives $250.65 check from C. F. Blair, fabrication superintendent, and emblem from G. K. Cox, sheet metal foreman, as partial payment for Employee Suggestion.

Christmas Tree Typifies Yuletide

Lights went on the first of this month to bring Christmas closer to Plant 1 people, as well as passers-by.

The customary tall Christmas tree, some 40-ft. high, was put up beside Bldg. 19 and twinkles with vari-colored lights every evening.

Jet 990 Pays Visit To South America

A Convair 990A jetliner, incorporating the new speed-improvement kit, winged its way home the first of this week after a hemispheric jaunt which saw it speeding over thousands of miles in the last few days, showing South American pilots how well it flies.

Airline personnel attached to South American lines joined the General Dynamics/Convair contingent for long hops—Mexico to Colombia to Peru to Brazil—to see for themselves how dependable and responsive the updated airliner is.

The trip began Dec. 10 when 990 No. 2, now updated to the Swissair long-range version and relabeled N5602G, swung off the San Diego runway at 8:30 a.m. headed toward Mexico City. There, half a dozen South American airline operations men, including pilots and maintenance experts, boarded the Convair jet transport for the rest of the journey.

Second day out saw Pilots W. D. Carrier and John Knebel guiding the well-trained craft over the 1,734 nautical mile hop to Bogota, Colombia, and on to Lima, Peru. Takeoffs in rarefied atmosphere were demonstrated at Mexico City's airport (7,340-ft. altitude) and at Bogota, even higher in the sky—8,355 ft.

Convair's white bird flew high over the Andes the following day to Brazil where it went through takeoff and landing paces on Sao Paulo's short (7,117-ft.) runway.

Plans called for direct return to San Diego via Panama.

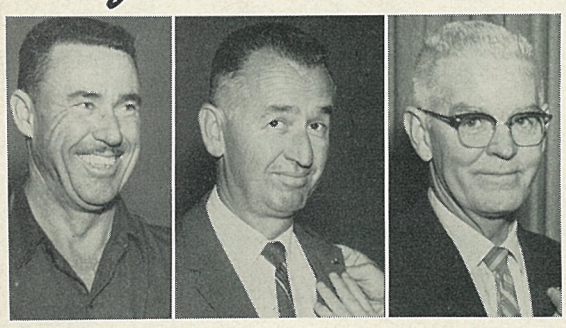
Probably most hectic part of the whole trip was the preparation. The travelers had just a week to get clearance for themselves and the plane before departure time. From the day final plans were announced (Nov. 30) there was great scurrying to get shots, visas, passports for passengers and permission to fly the

(Continued on Page 2)



SOUTH BOUND—GD/Convair and General Electric delegation get ready to board 990A jetliner (bearing United States flag on side) on grey, misty San Diego morning for first leg of flight to South America. Updated jet transport and crew were due home from demonstration flight early this week.

Log Book Entries



New 25-year men at GD/Convair are, from left, Merle O. Sage, Dept. 171; Herman J. Hagman, Dept. 34-2; and Melvin J. Iverson, Dept. 48-31.

Service Emblems

CONVAIR

Service emblems due during the period Dec. 16 through Dec. 31.

Twenty-five-year: Dept. 31, H. J. Komos, B. A. Shourds; Dept. 48-95, L. A. Brugger.

Twenty-year: Dept. 17-0, Kathryn R. Small; Dept. 21-1, Marion L. Merritt; Dept. 23-3, R. D. Marks; Dept. 25-5, J. J. Kocurek; Dept. 101, C. E. Alexander; Dept. 140, T. F. Wightman; Dept. 171, R. S. Lathrum; Dept. 400-1, E. B. Goodman; Dept. 401-5, J. G. Oliveira.

Fifteen-year: Dept. 2-2, W. D. Reed; Dept. 14, R. A. Johnston, Blanche B. Sutton, Ellen V. Tieszen, M. M. Wood; Dept. 22, Chique E. Stieringer; Dept. 48, W. H. Dunlap Jr., Nellie J. Karpinsky; Dept. 91-3, R. M. Merino; Dept. 115, E. W. Johns; Dept. 140, Norman Jones; Dept. 171, J. E. Grantham, D. E. Fuller, A. D. Williams, J. P. Williams, O. S. Wright; Dept. 192-2, Amelia E. Hamilton; Dept. 215, J. F. Roberts; Dept. 216, Helen G. Davis; Dept. 400-5, C. Padilla.

Ten-year: Dept. 6, W. R. Copeland, W. F. Kemp, R. D. Small; Dept. 23-5, Beverly J. Monk; Dept. 25-1, W. P. Brennan, W. H. Mabrey; Dept. 192-2, H. E. Baxter.

GD/ELECTRONICS

Ten-year: Dept. 10-00, Kay C. Anderson; Dept. 54-10, O. D. Robertson.

Personals

CONVAIR

I wish to express my deepest appreciation to all of my Convair friends for their many kindnesses, cards, flowers, and expressions of sympathy at the death of my wife.

Michael Delva, Dept. 23.

* * *

We thank all of our good friends at Convair for the many kind acts and expressions of sympathy at the death of our father, Joseph R. Van Winkle.

C. R. "Rip" Van Winkle, Dept. 171.
John Fish (Dept. 171) and family.

* * *

My heartfelt thanks go to all of my Convair friends, especially those in Depts. 24 and 25, for their thoughtfulness, flowers, cards, and many expressions of sympathy at the death of my mother, Edna Corona.

E. W. Manning, Dept. 24.

* * *

We should like to thank all of our friends at Convair for their thoughtfulness and many kindnesses during the illness and death of our beloved wife and mother, Virginia.

R. E. Dennington and family, Dept. 24.

* * *

I wish to express my heartfelt thanks for the kindness shown me at the death of my husband, Leo J. Mueller, formerly of GD/Convair.

Marjorie E. Mueller, GD/Astro Dept. 191-0.

Deaths

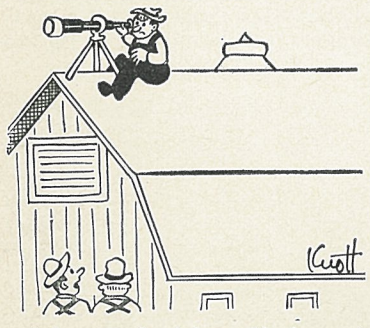
CONVAIR

HOGAN—James L., Dept. 16-1. Died Dec. 6. Survived by his wife, Edith, three daughters, two grandchildren.

Rider-Driver

CONVAIR

RIDE or RIDERS—7 a.m. to 3:30 p.m., from Escondido to Plant 1. Phil Godfrey, ext. 533.



"It's pretty hard for a hired man to loaf any place on this farm."

Retirements

CONVAIR

BERTRAND, William L., Dept. 215. Seniority date May 23, 1956, retirement effective Sept. 17, 1962.

BULLOCK, William F., Dept. 140. Seniority date Sept. 16, 1946, retirement effective Nov. 30, 1962.

CARROLL — Ona M., Dept. 400-8. Seniority date Oct. 23, 1950, retirement effective May 24, 1962.

CHARLESTON, Henry F., Dept. 325-1. Seniority date Sept. 4, 1956, retirement effective Sept. 1, 1962.

CLOTHIER — Homer V., Dept. 138. Seniority date April 10, 1952, retirement effective Nov. 30, 1962.

COLE, Gordon F., Dept. 48. Seniority date May 5, 1954, retirement effective Oct. 5, 1962.

FRANZAK, Walter, Dept. 140. Seniority date Oct. 29, 1951, retirement effective Oct. 7, 1962.

HAMILL, Alice E., Dept. 3-2. Seniority date Oct. 8, 1942, retirement effective Nov. 23, 1962.

MANTEY, Albert E., Dept. 14-2. Seniority date April 17, 1951, retirement effective Nov. 30, 1962.

MISCHE, Frank, Dept. 401. Seniority date Dec. 3, 1935, retirement effective Nov. 30, 1962.

MUNIZ, Manuel, Dept. 25-2. Seniority date Oct. 16, 1947, retirement effective Aug. 31, 1962.

O'BRIEN, John J., Dept. 48-46. Seniority date July 25, 1950, retirement effective Nov. 30, 1962.

ZABOSKY, Paul J., Dept. 14-7. Seniority date Jan. 29, 1951, retirement effective Oct. 2, 1962.

F-106 Sq. Flies Accident-Free

An F-106-equipped squadron has chalked up its third consecutive year of accident-free flying.

The 5th Fighter-Interceptor Squadron, based at Minot AFB, N. D., maintained its perfect record while flying three different types of aircraft, including Convair F-102s and the advanced F-106 fighter-interceptors.

Before assignment to Minot, the 5th FIS was based at Suffolk County AFB, N. Y., where its pilots flew the F-102. After transfer to the North Dakota base, the squadron used the T-33 for practice and familiarization until it received F-106s in early 1960.

General Dynamics/Convair field service representative with the 5th FIS is D. W. St. Pierre.

Radio Station Cites Cost Account Mgr.

John J. Jodka, GD/Convair manager of cost accounting, was tabbed "Businessman of the Day," by the San Diego radio station KSDO early this month.

Jodka was saluted for his activities in the National Association of Accountants, San Diego chapter, of which he is a past director.

He received special recognition for his article, "A New Management Concept—PERT," published in several national business magazines, winning him the high-point score for the year in the local accountants' organization.

General Dynamics NEWS

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GD/Electronics (San Diego) news contact: Betty Freeby, CY-8-4641, ext. 1377, Plant 1, Bldg. 51.

Fort Worth Editorial Offices, Col. 72, Admin. Bldg., GD/Fort Worth, Mail Zone 0-50, P.O. Box 748, Fort Worth 1, Texas. Telephone PErshing 2-4811, ext. 2961. Staff: Dave Lewis, editor; Mary Beck.

Pomona Editorial Offices, Room 106-D, Bldg. 1, GD/Pomona, Mail Zone 3-3, P.O. Box 1011, Pomona, Calif. Telephone NAtional 9-5111, ext. 6226-5279. Staff: Glenn Kehr, editor; Carol Sowers. Daingerfield news office, P.O. Box 947, Daingerfield, Texas. Telephone Lone Star, Texas, 2211, ext. 424.

* * *

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Jet 990 Visits South America

(Continued from Page 1)

plane over individual South American countries. South American consulates in Los Angeles helped expedite proceedings in every way they could.

GD/Convair men aboard, besides Pilot Carrier and Co-pilot Knebel, were R. M. Bloom, flight engineer; A. E. Hunt and W. G. Walker, flight test engineers; J. D. Donaldson, aerodynamics design specialist; E. J. Griffin, service engineer; S. J. Barinka, field operations superintendent; P. A. Withnow, maintenance supervisor; Raymond Araiza, flight electrician; G. O. Spencer and M. E. Parker, flight mechanics; A. E. Montgomery, radio technician. N. P. Krull Jr., General Electric representative, also accompanied the flight.

Araiza, with his command of Portuguese and Spanish, helped bridge the language barrier between the English-speaking crew and their South American traveling companions. And, for Griffin, it was more or less a homecoming. He was based at South American points as field service representative during Convair-Liner days.

Third 880-M Jet Bought by Viasa

Venezolana International de Aviacion S. A. (commonly known as Viasa) has purchased a third 880-M jet transport from General Dynamics/Convair for use on the airline's routes between the United States, the Caribbean and South America.

Viasa's first two Convair 880-M jets have been in service with the airline since 1961. The Viasa 880-M fleet now serves New York, Miami, New Orleans, Santo Domingo, Curacao and Caracas.

The new 880-M will be delivered to Viasa in early April. It will supplement the present fleet and will be used on additional routes to be inaugurated shortly. Viasa's 880-Ms are equipped with an 8-place lounge in the forward cabin, plus 12 seats in the first-class section and 82 seats in the coach area.

The 880-M is an advanced version of the 615-mile-an-hour 880 in domestic airline service. The 880-M is powered by four General Electric CJ-805-3B jet engines with a total thrust of 46,600 pounds.

Convair Is Runner-up In League Ball Play

GD/Convair sluggers hit their way into second-best spot in first round of Industrial League baseball play.

They downed Naval Air Station Dec. 2, 4-2, to emerge runner-up with a won-lost score of 4 to 2.

Their losses went to Oceanside in the opener and to the first-half winner, National City.

The Convair team started a same-song, second-verse routine by dropping the first game of the second half to Oceanside, 10-9. They were scheduled to play Montoya Construction last Sunday and go on to meet Brawley this weekend, Dec. 23.

'Fatigue Inadequacy' Subject of Article

"Correcting Fatigue Inadequacy," is title of an article by a General Dynamics/Convair fatigue research specialist which appeared last month in a British magazine.

The article, authored by Clarence R. Smith, was carried in the November issue of Aircraft Engineering, published by Dunhill Publications Co., London, England. Based on Smith's fatigue theories, it explains principles for determining future stress requirements on basis of information obtained from past structural failures.



CHRISTMAS CHEER—General Dynamics divisions this week exchange Christmas greetings. Adding beauty to Christmas sentiments are Darleen Elson and Nelda Larance, both in Centaur project at GD/Astronautics.

'Resources Economics' Projects Credited With Large Savings

Box score for savings to General Dynamics/Convair through "Resources Economics" projects this year will hit the $1,150,000 mark.

Division operating expenses had been reduced by $1,043,465 by the end of November with at least another $100,000 in sight this month, reports Vic Janusz, in charge of Resources Economics activities.

Sixty cost-cutting projects have been completed with 22 others now under study for additional savings to attain the goal for the entire 82—$1,779,000. More projects are thrown into the hopper constantly with several large programs now in work which will bring about considerable additional savings, said Janusz.

Fifteen per cent of the total savings, about $150,000, resulted from reduction in utility bills, largely achieved by careful use of electricity, water, phones in Plants 1 and 2, Rose Canyon, and the ramp facility.

Consolidation of similar activities within the division, reduction of outside rental charges, streamlining of paperwork, more efficient utilization of existing data processing equipment, reduction in chemicals cost and better use of processing tanks have been responsible for the greatest part of the cut in expenses.

Hams to Provide Xmas Dinner For San Diego Needy Families

Christmas will be more cheerful this year for a number of San Diego families through the efforts of GD/Convair and GD/Electronics Employees' Con-Trib-Club and Management Club.

The Management Club is purchasing 75 hams, at a cost of $300, to provide the main part of Christmas dinner for families selected by the Salvation Army. Con-Trib-Club is contributing $500 to the Salvation Army to help fill the Christmas baskets.

L. C. Stuckey, in charge of special projects of the Management Club, said that at least a dozen Management Club board members have already volunteered their cars and services to deliver baskets on Saturday morning, Dec. 22.

Brig. Howard E. Sloan, city commander of the Salvation Army indicates that at least 3,000 families will receive Merry Christmas through the organization. This number of families includes at least 11,000 mothers, fathers, and children.

Con-Trib-Club Reports on Funds

General Dynamics/Convair Employees' Con-Trib-Club Charity Fund
Statement of Financial Condition
Sept. 30, 1962

ASSETS

Total Assets—Cash in bank	$ 34,886.21

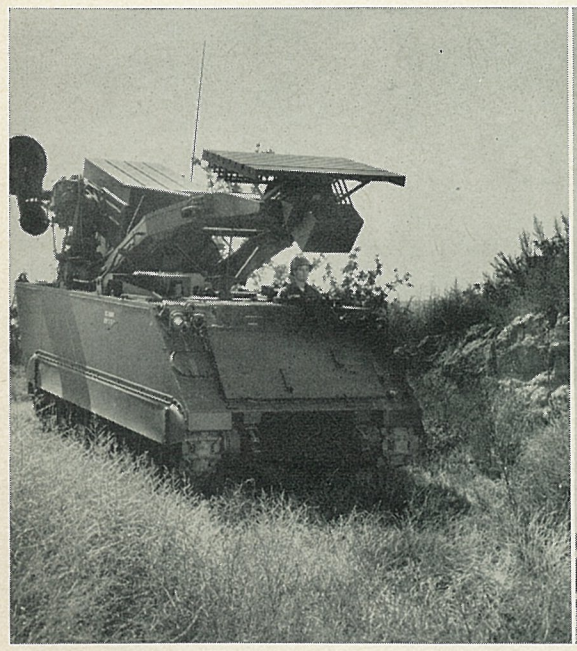
LIABILITIES AND SURPLUS FUND

Account Payable—Emergency Aid Fund	$ 1,149.24
Surplus Fund	33,736.97
Total liabilities and surplus fund	$ 34,886.21

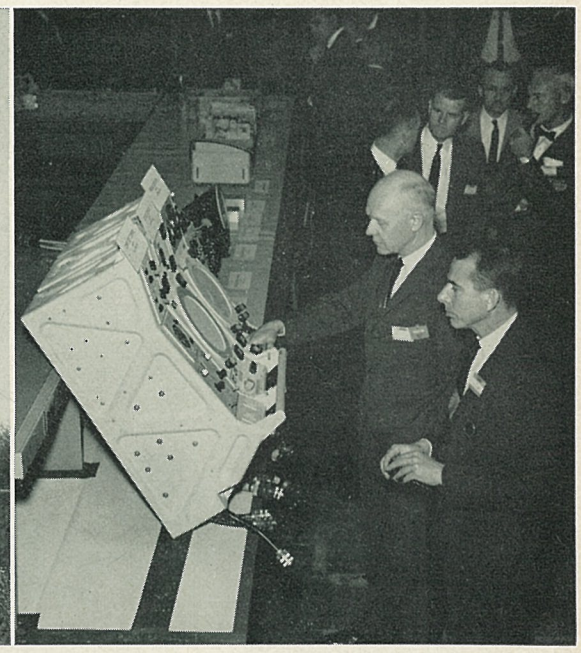
RECEIPTS AND DISBURSEMENTS

October 1, 1961 to September 30, 1962

Total Receipts		$199,986.55
Disbursements		
American Cancer Society	$ 5,000.00	
Arthritis and Rheumatism Foundation	500.00	
Boy Scouts of America—San Diego County Council	4,000.00	
Camp Fire Girls—San Diego County Council	1,000.00	
Children's Dental Health Association	1,000.00	
Children's Hospital of San Diego	1,000.00	
Crossroads Foundation	750.00	
Family Service Association	1,500.00	
Foothills Family Service Association	500.00	
Girl Scouts Council of San Diego County	3,000.00	
Imperial Beach Family Service Association	250.00	
International Guiding Eye	1,000.00	
Jewish Community Center of San Diego	1,000.00	
Mercy—Guadalupe Clinic	1,500.00	
Muscular Dystrophy Association of America	1,000.00	
Otero County Association for Retarded Children	500.00	
Otero County United Fund	1,000.00	
Pathfinders of San Diego	1,000.00	
Rancho Los Amigos Hospital	1,500.00	
Salvation Army	6,500.00	
San Diego Children's Dental Health Clinic	500.00	
San Diego County Association for Retarded Children	3,000.00	
San Diego County Council of Churches	1,000.00	
San Diego County Edgemoor Geriatric Hospital	2,000.00	
San Diego County Epilepsy Society	500.00	
San Diego County Heart Association	4,000.00	
San Diego Society for Crippled Children	4,000.00	
San Diego Zoological Society	3,325.00	
San Dieguito Family Service Association	250.00	
Sunnyside Guild	1,500.00	
United Cerebral Palsy Foundation	1,600.00	
United Fund—San Diego County	125,000.00	
United Jewish Federation—San Diego	750.00	
Volunteers of America	1,000.00	
Wheelcade, Inc.	500.00	
Y. M. C. A. of San Diego	2,250.00	
Total charitable contributions	$184,675.00	
Transfers to Emergency Aid Fund	21,419.97	
Expenses — accounting and audit	850.00	
Bal. due Astronautics Con-Trib-Club Antelope Valley	308.88	
Total disbursements		207,253.85
Excess — disbursements over receipts		$ 7,267.30







DEFENDER—Above left is engineering model of self-contained Mauler air defense system with weapons and tracking equipment in stowed position as it would be when loaded aboard aircraft. Mauler is under development for U.S. Army at General Dynamics/Pomona. In center photo mockup of guided missile in shipping container is being loaded. At right W. J. Morrow (right), director of Army weapon systems at GD/Pomona, shows Lt. Gen. H. T. Alness, director of Army's weapons systems evaluation group, some of Mauler equipment. Mauler missiles use solid fuel, are radar guided for use against tactical aircraft, short-range missiles and rockets.

Reliability Called a Matter Of Individual Responsibility

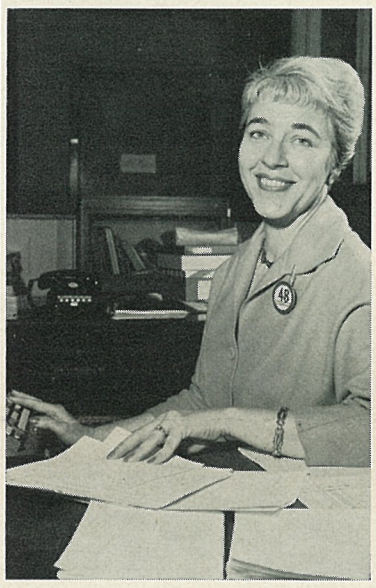
"Reliability, to me, means INTEGRITY!" said Helen Sunblade, statistical technician in GD/Convair quality control, one of nearly 1,000 people who have attended the division's Space Age Reliability training course.

"Each of us is responsible for every process that passes through our hands. We can not expect anyone else, either the person behind or the one ahead in the chain of procedure, to double check and correct an error made by someone else.

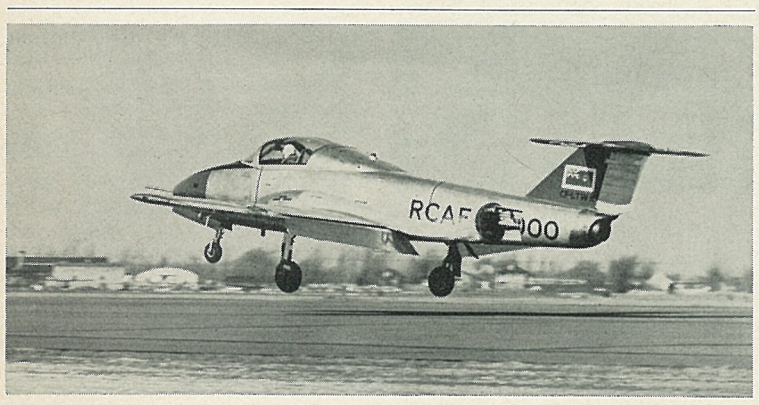
"It is MY responsibility to be accurate!

"And, as the reliability training points out so well, it is most important that we all adjust our own personal mental attitudes to meet the changing and critical demands we face now and will face in the future."

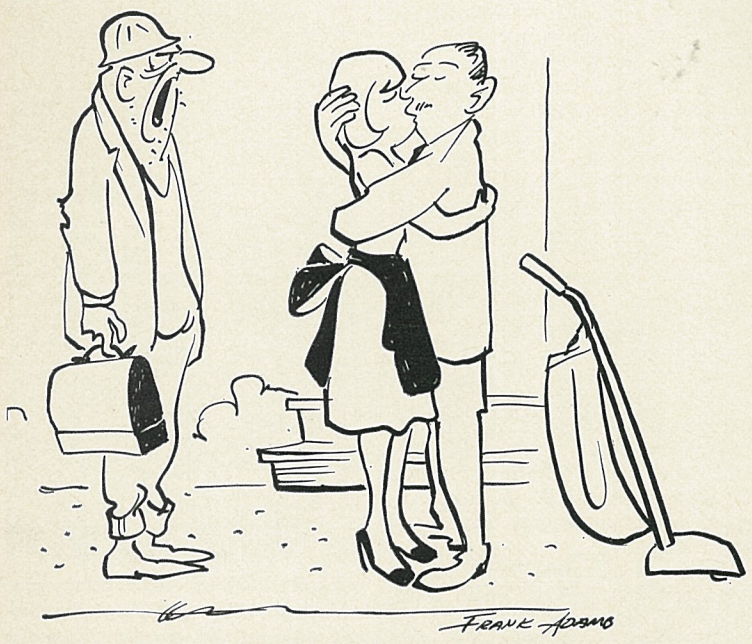
Mrs. Sunblade, who reports to L. G. Lawson of Dept. 48-01, is more aware than most people of the significance of high reliability. For the last 10 years her work has involved the compiling of reports on vendors' performance, and consequently, their reliability rating.



Helen Sunblade, Dept. 48-0 statistical technician.



MODIFIED—Canadair Ltd.'s CL-41A jet pilot trainer flew recently with new type engine. Prototype has been modified to accommodate General Electric J85 turbojet engine. Other changes include larger air brakes and cut-away fuselage tail-end to save weight. Royal Canadian Air Force will receive 190 of these aircraft.



"I suppose this means my TV dinner will be scorched again!"

Mobility Key Feature Of U.S. Army's Mauler

The U. S. Army has released first photographs of an engineering mockup of the fire unit for Mauler, the Army's newest guided missile system.

General Dynamics/Pomona is prime contractor for Mauler, designed to be a compact, highly mobile weapon.

Using solid rocket fuel, the Mauler missile will be radar guided and is designed to destroy high performance tactical aircraft that bomb, strafe or harass forward battle area positions. Mauler will also have a capability against short range ballistic missiles and rockets.

The U. S. Army Missile Command, an element of the U. S. Army Material Command, has overall charge of Mauler development. Mauler is one of several weapons selected for special high priority management by the Material Command. Col. Norman Dennis, Mauler project manager, and his staff are located at Redstone Arsenal, Ala.

The data digitizer for Mauler's communications network will be developed by General Dynamics/Electronics-Rochester. It will be completely transistorized for compactness, reliability and low power requirement, and will provide both voice and data for communication with other Mauler units and with a battery command post.

Each Mauler fire unit will be entirely contained on a self-propelled, fully tracked vehicle of standard design. The fire unit will be capable of delivering accurate fire while moving. This characteristic conforms to present Army policy to give a degree of mobility to all its new weapon systems so that an enemy is not presented with targets which are fixed or stationary.

The Mauler fire unit will be light enough to be carried by fixed-wing aircraft. Each fire unit contains its own power supply, target detection and tracking and electronic fire control equipment as well as a basic load of missiles.

The surface-to-air Mauler missiles will be prepackaged in lightweight cases that will serve as both shipping containers and launch tubes.

Mauler development work has been under way for more than two years. First contract was awarded General Dynamics on March 31, 1960. The Army announced in October, 1961, that firings of the solid fuel Mauler missile had begun at White Sands Missile Range, N. M.

GD/E Printer Is Sold To Propulsion Lab Operated For NASA

Sale of an S-C 3070 high-speed electronic printer to Jet Propulsion Laboratory, Pasadena, was announced last week by General Dynamics/Electronics — San Diego.

The laboratory, which is operated by the California Institute of Technology under contract to NASA, will use the S-C 3070 to print scientific data taken from high-speed computers working on various space projects.

The GD/Electronics high-speed printer is capable of printing 5,000 words a minute. To attain these speeds, the system presents one character at a time on the face of a CHARACTRON^{R} Shaped-Beam Tube. From there the image is optically projected to a light sensitive paper.

Development of the image on the paper is accomplished by a unique electrostatic printing process.

Lt. Gen. Alness Sees Mauler

Lt. Gen. H. T. Alness, director of the Army's Weapons Systems Evaluation Group, visited General Dynamics/Pomona Nov. 28.

Purpose of General Alness' visit to Pomona was to review progress on Mauler, a mobile weapon system being developed for battlefield defense.

General Alness was accompanied to Pomona by Cols. P. L. Bates, F. C. Stanford, J. H. Swenson, W. L. Schreiber, R. O. Fricks and E. N. Rydalch, Lt. Cols. W. E. Holmes and Francis C. Kajencki, and Dr. L. D. Strom of Department of the Army Staff, Washington, D. C.

Also on the Pomona tour with General Alness were Col. B. B. Drummond and Jack Bayer of the Army's Los Angeles Procurement District, and Capts. L. R. Olsen and L. J. Mack of the U. S. Navy.



MANY STARS—During meeting of General Dynamics Anti-Submarine Warfare coordinating committee at San Diego recently, several ranking admirals in area were briefed. From left: RAdm. R. M. Reynolds, Bureau of Naval Weapons, Fleet Readiness, Pacific; RAdm. Marshall W. White, Commander Fleet Air, San Diego; C. F. Horne, president of GD/Pomona and GD/E and committee chairman; VAdm. Paul D. Stroop, Commander Naval Air Force, Pacific Fleet; J. H. Famme, president of GD/Convair; RAdm. Francis D. Boyle, Commander Cruiser-Destroyer Flotilla Seven.

Teen-Age Artist Reproduces Portrait of Alfred Stromberg

A teen-age artist is delving into history of General Dynamics Corporation for subject material for his art creations.

John Dawson, 14-year-old son of Ellie Dawson of GD/Electronics—San Diego, chose the co-founder of Stromberg-Carlson for his first portrait in charcoal.

His drawing reproduces in fine detail the illustration of Alfred Stromberg carried on page 28 of "Dynamic America," profusely illustrated volume of General Dynamics development.

The picture not only gave John the artist's satisfaction of a well-done performance, but earned him extra credit in his art class at Einstein Junior High School, Clairemont. His art teacher for three years, Sheila Wells, praises him as one of her most promising students.

As a result of his work in reproducing the likeness of Stromberg, he now has been asked to do a similar portrait of Albert Einstein to hang permanently in the school which bears the famous physicist's name.



TALENTED — Ellie Dawson of GD/Electronics at San Diego admires charcoal reproduction of Alfred Stromberg drawn by son, John.

Small Businesses Briefed On Changes in Aerospace

General Dynamics / Astronautics last week played host to approximately 600 representatives of supplier companies from across the nation at a special seminar.

Behind the affair was a desire to help small business firms keep abreast of changes in the aerospace industry, according to P. I. Harr, director of reliability control at Astronautics.

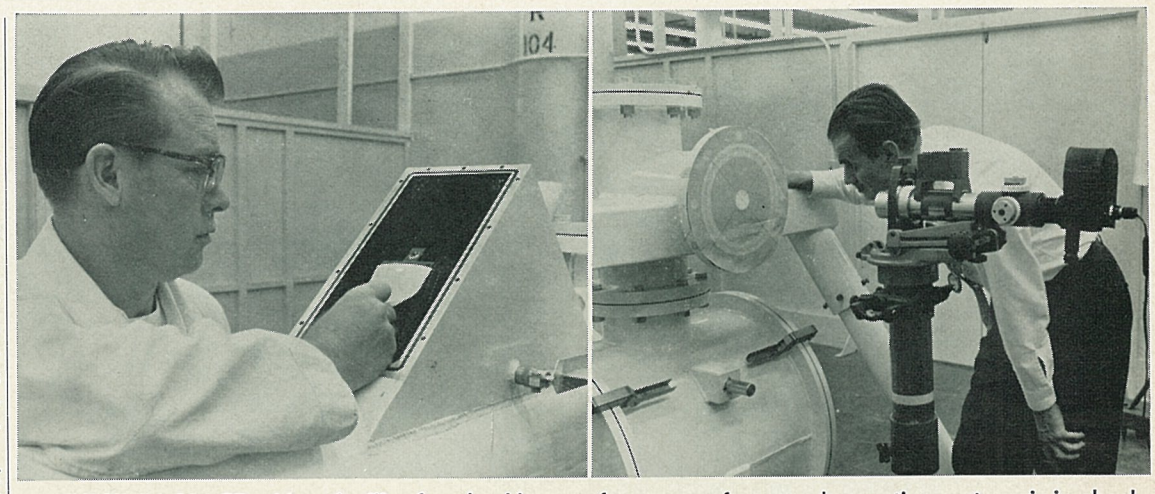
L. I. "Russ" Medlock, manager of quality control, handled arrangements.

Five individual sessions were set up with firms taking part, according to types of products.

Stressed was the necessity for supplier reliability and quality control.

Medlock informed participants that 65 per cent of the end product at Astronautics is manufactured by other firms. During 1961 more than $106 million was distributed directly to small businesses in addition to the millions that went indirectly to the concerns from major companies selling to Astro.

Astronautics personnel taking part included representatives from engineering, procurement, production engineering, and various reliability control functions.



"EYES" IN SPACE—New facility for checking performance of space observation systems is in checkout at San Diego. At right E. J. Barnett of GD/Astro applied manufacturing research aligns tube by projecting spot of light. At left, Wally Butts, technician, points out slit of light (target) at opposite end of instrument.

NASA Contract Authorizes Study Of Metals in Supersonic Flight

General Dynamics/Convair will be studying problems involving metals slated for use in a supersonic transport under a $61,000 contract announced last week.

The contract, for research into "creep" of metals, was awarded by the Office of Advanced Research and Technology, National Aeronautics and Space Administration, Washington, D. C.

Under the contract, GD/Convair structures engineers will design and prove out a test apparatus for determining the onset of creep, or elongation, of metals subjected to combinations of stress, high temperature and time. The apparatus will be equipped with extremely sensitive strain sensing devices and accommodate nine metal test specimens at a time.

Metals under consideration for supersonic transport application such as titanium, super alloys, and stainless steels, will undergo initial tests for 1,000 hours at temperatures between 600 and 700 degrees F. Different stresses will be applied to determine at what point creep begins.



THAT'S DADDY—Roy V. Woodle, assistant site manager—PALC I at Vandenberg AFB, has become "celebrity" since his photograph began appearing on magazines and television cigarette advertising. Wife, Sunny, and children look over one of ads, while books in foreground contain others. Tom Jacqua, Astro photo coordinator at Vandenberg, snapped shot.

Ad Agency Picks Young Engineer For Cigarette Testimonials

VANDENBERG AFB — Just for the record: Roy V. Woodle IS a young engineer in an important missile program position; he DOES work for General Dynamics/Astronautics here; he smokes Camel cigarettes.

Many questions along this line have been directed to Woodle since he began appearing in cigarette testimonials some 18 months ago. They have appeared in national publications with combined circulation of over 80 million and on television.

Since then his mail has included queries from would-be relatives of the same name, from hundreds of kids and many old friends he has not seen for years and some skeptics. He has been stopped many times on the street to verify his identity as "that guy we saw on television."

Woodle, an Astronautics assistant site manager—PALC 1, answers each letter he receives personally and with the help of Astro communication representative here, Emile Genest, sends interested youngsters Atlas missile pictures and information on space programs.

His "fame" was unsolicited and unexpected. A representative of an agency handling Camel advertisements came here looking for a subject. He selected Astronautics personnel because of cooperation he had received from officials in the past.

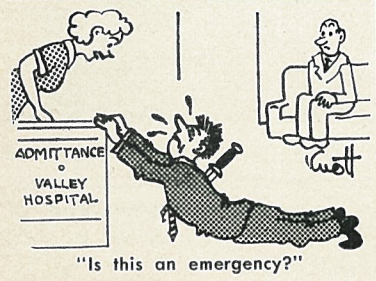
(Old timers will recall similar ads some years back featuring "Skeets" Coleman, first pilot of the "Pogo.")

The agency man insisted the subject had to be a Camel smoker who fit a lot of other requirements. He passed Woodle in a blockhouse area, saw a pack of Camels in his pocket and made him an offer.

Woodle inked a contract, then appeared on his own time before still and television cameras. He then became eligible for membership in the Screen Actors Guild.

Payments for his testimonials appear shortly after each is used.

The Woodle family enjoys the attention provoked by the ads and keeps files on all correspondence just for fun.



"Is this an emergency?"

Surveillance Systems For Space Checked

An advanced facility for checkout of telescopic systems for observing spacecraft, designed and built by General Dynamics/Astronautics optics research experts under an Air Force contract, currently is undergoing performance checkouts at San Diego.

It is designed specifically for evaluation of high resolution optical systems, said Romuald Anthony, research group engineer in charge of optics and infrared technology laboratories under V. A. Babits, manager of Astro applied research.

The chamber, located in the Plant 1 optics laboratory facility, will provide extreme temperature gradients anticipated in orbit. It will allow checkout of delicate electro-optical systems as if they were installed on a space vehicle and exposed to cyclical heat variation similar to that in various orbits, explained Loren C. Wilson, senior design engineer who has been responsible for development.

"We now will be able to evaluate systems in ultraviolet, visible, or infrared light without atmospheric effects and, in addition, simulate target motion," Wilson said.

Going into the chamber will be specimens of systems designed for either ground or air surveillance of space vehicles in orbit. These electro-optical systems would be looking at exhaust plumes of missiles during boost phase.

The new instrument is a vacuum test chamber with a collimator, a tube with a parabolic off-axis mirror at one end to produce a beam of parallel rays of light to provide a target (in form of slit of light) at the other end. This slit of light is, to all intents and purposes, an artificial source, simulating a target at infinite distance.

A scanning mirror simulates movement of the target. The scanner can be moved by hand for a slow scan in measuring size of the specimen or can be motor driven to evaluate dynamic characteristics of the electro-optic system.

Equivalent altitudes of 150,000 ft. are achieved in the vacuum chamber with reduced pressure eliminating both mirages produced by convection currents in the air and heat transfer by convection.

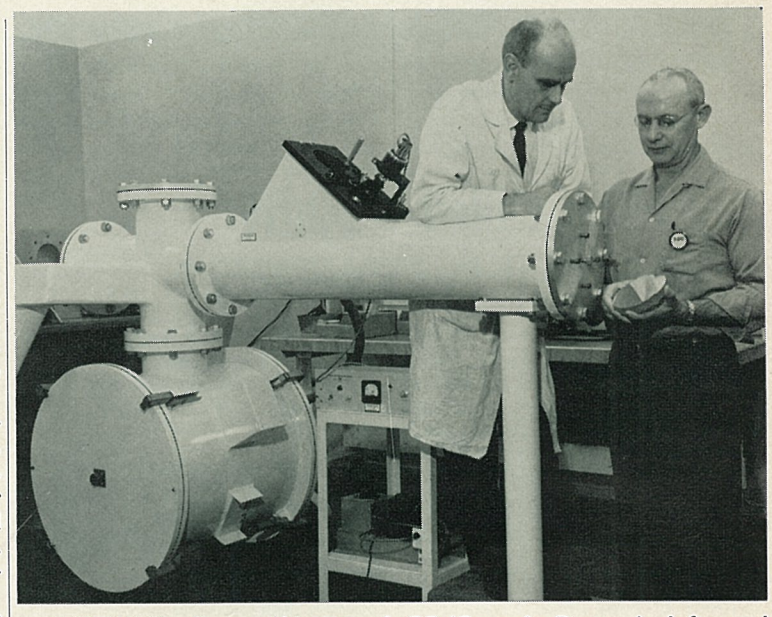
The chamber, containing the specimen, can be positioned at three different angles to examine changes which might occur in the optics from heat gradients and gravitational changes from plus 1 G to minus 1 G equivalent.

Provisions have been made, continued Wilson, for future installation of electrical heaters within the specimen chamber. These heaters could regulate temperatures from room temperature to 150 degrees Fahrenheit for evaluation of performance under changing themal conditions. Also, a cooling system using carbon dioxide, could bring temperature down to as low as minus 65 degrees F.

Data is recorded in graph form on an oscillograph and tests are monitored by an oscilloscope.

Also involved in design and initial checkout of the advanced facility, besides Wilson, is Swen Ahlgren of GD/Convair Dept. 6, who has been on loan to the optics research group during the last few months.

"We feel that this is an important step forward in expansion of our facilities for continuing effort in the aerospace field," stressed Anthony.



KEY PART—Swen Ahlgren of GD/Convair Dept. 6, left, and Loren Wilson of GD/Astro optics research examine parabolic off-axis mirror, heart of instrument to check refined optics systems.

Home For Xmas

GD/Astro Boy, 4, Injured by Car, Making Miraculous Recovery

Christmas is a time of hope, especially for the very young like Michael Callaway, 4.

Michael hopes to come home for Christmas, just as he did for Thanksgiving. He hopes there will be a tree, filled stockings, presents and a turkey, with a special drumstick just for him. Above all, he hopes to share his bounties with his parents, the Donald Callaways, and brother Jeffrey, 1.

Chances are, these things will come to pass, because Michael owes so much to hope, and faith and determination!

Early this year his father, a General Dynamics / Astronautics missile flight test mechanic, moved his family to Salina, Kan., where he went on special assignment from his Vandenberg AFB job.

Returning from a friend's, Michael was struck by a car. Unconscious, he was rushed to a hospital. A noted neuro-surgeon performed exploratory surgery. He said that Michael's small brain was damaged beyond medical help. He advised the Callaways to place Michael in a home where he could be cared for as an invalid. Other doctors concurred—there was little hope; only a miracle could help.

The Callaways refused to give up. They returned Michael to Santa Maria for physical therapy and searched for a medical specialist who would share their faith.

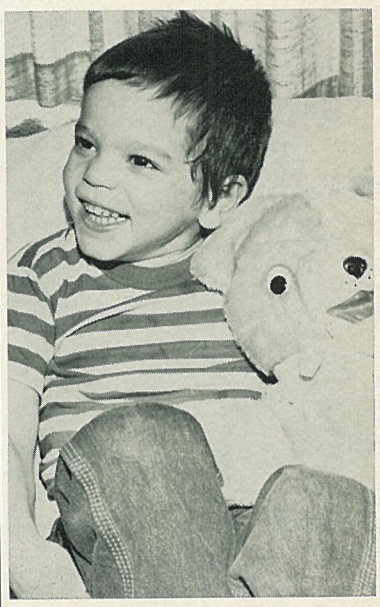
Although they located such a surgeon in Philadelphia, the trip east was judged too dangerous and Michael ultimately entered Children's Hospital in Los Angeles where he began to respond to treatment.

Long in a coma, he regained consciousness. He ate solid foods and regained partial use of his limbs. Each week brought more recovery. He is dressed every day, sits up constantly and even feeds himself. Improvement in use of his limbs is noticed almost daily.

Thanksgiving was a happy time because Michael came home to a special meal during a four-day stay with his family. He's back in Los Angeles now. But he's hoping to make it home again for Christmas.

So are a lot of other folks, both known and unknown to the Callaways. They are the ones who have contributed to help meet the many bills and travel expenses involved. For instance, the International Association of Machinists gave $300 for travel and incidentals. And Con-Trib-Club stands ready to help.

One and all, they hope it will be a very Merry Christmas for the Callaways, a family that has never lost hope.



RESPONDING — Michael Callaway, 4, once given up as lifelong invalid, is coming home for Christmas.

Dynamics Engineers Fill Elective Posts For Space Society

General Dynamics men swept top elective posts for the coming year in Dec. 5 elections of the Aerospace Electrical Society, San Diego Chapter.

T. W. Ochodnicky of GD/Convair succeeds E. F. Kotnik, GD/Convair engineer, as president. Ochodnicky, design group engineer in Dept. 6 engineering task administration, served as vice president during the last term.



T. W. Ochodnicky

Other new officers are E. R. Gauthier, GD/Astro, vice president; A. A. Fabbri of GD/Convair, secretary; G. C. French, GD/Astro, treasurer.

Gauthier is design group engineer in GD/Astro launch computers systems. Fabbri is electrical design engineer on the Little Joe II program at GD/Convair, while French is a design group engineer on Atlas weapons systems—electric.

New members of the executive board are two GD men, D. G. Moody of GD/Convair Dept. 6, assistant program manager on Little Joe II; and Don Richart of GD/Astro Dept. 373-5, launch computers systems.

Present membership of the society includes 200 representing San Diego area industries. Over half of these are connected with General Dynamics divisions—GD/Convair, GD/Astro, and GD/Electronics.

Scheduled meetings are held every other month to discuss new developments in the aerospace field and activities include an annual display, held the last five years in Balboa Park, as well as co-sponsorship with other technical groups of the yearly National Engineers week.





CLAMBAKE—Astro folk at Vandenberg AFB during November gathered 2,000 strong at Oceano for ARA-sponsored clambake. At right is part of crowd. Gene Sims, local ARA president, is shown left above with Don Weaver stoking chowder pots. Kibitzing are Clay Savery, John Couey, John Kern. Many of those attending braved cool surf to dig clams for meal's main course.

More Atlas Silo Installations Join SAC, Become Operational

WALKER AFB — The fifth series "F" or silo Atlas missile installation to be declared operational joined the deterrent force of the Strategic Air Command here Dec. 8.

Twelve Atlas launch complexes and their supporting facilities were turned over to the 6th Strategic Aerospace Wing, SAC, commanded by Col. Ernest C. Eddy. Crews of the 579th Strategic Missile Squadron commanded by Col. Edward M. Jacquet are now manning the sites.

Col. R. I. Barrowclough, SATAF commander here for Ballistic Systems Division, Air Force Space Command, acted for Maj. Gen. W. Austin Davis, BSC commander, in the ceremonies.

M. R. "Rex" Ubben was operations manager for General Dynamics/Astronautics forces who performed activities on the sites.

Already declared operational are similar sites at Schilling AFB, Kan., Lincoln AFB, Neb., Altus AFB, Okla., and Dyess AFB, Tex. Nearing completion are those being activated at Plattsburgh AFB, N. Y.



FINAL SESSION—Atlas series "F" launch and service facilities at Walker AFB were recently declared operational by SAC. Key men involved in activation are shown with Col. R. I. Barrowclough, SATAF commander, in final planning session. Seated are M. R. Ubben, GD/Astro operations manager, left, and John Provost, GE Company-Re-Entry Systems Department manager. Standing left to right are Frank Owens, Boeing-Catalytic manager; Ralph McElroy, ITT-Kellogg manager; Bill Miller, Rocketdyne manager; and E. S. Hewitt, manager for American Bosch-Arma Corp.

Aerospace Society Elects Four From General Dynamics

Ray Crowell of General Dynamics/Astronautics has been elected to office in the National Society of Aerospace Professionals and three other General Dynamics men to the board of directors.

Crowell is vice president for special activities for the coming year. Among new directors are Don Germeraad, formerly GD/Convair chief engineering test pilot now of GD/Astro; W. D. Reed, GD/Convair director of manufacturing; and J. L. Milliorn, GD/Astro program control.

The organization now numbers 600 members in 31 different plants and military installations throughout the United States. Main objective is to promote closer cooperation and understanding between varied professions engaged in the aerospace vehicle field.

It also recognizes outstanding contributions to the advancement of aerospace arts and sciences. Highlight of 1962 programs was presentation of the John J. Montgomery Award to the X-15 flight test program.

Dynamics Men Named To SD Citizen Group

Several General Dynamics employees have been named to a special 190-member citizens' committee appointed by Mayor Charles Dail to advise the City Council on San Diego's 25-year "General Plan."

Robert H. Biron, General Dynamics corporate vice president, and Cushman Dow, GD/Astro legal counsel, were named along with Astronautics' Carl G. Erickson and Dean H. McCoy.

Pomona Engineers To Present Papers

Three General Dynamics / Pomona engineers will present technical papers at various national professional meetings.

Julius Jonas, chief of operations research, will present a paper, "Impact of genetics research on bionics," at the Bionics Symposium, Wright - Patterson Air Force Base, Dayton, Ohio, March 19-21.

R. G. Shook (Dept. 6) has been invited to present a paper at the fourth annual Structures and Materials Conference of American Rocket Society, New York, N. Y., April 1-3. Title of Shook's paper is "A two-dimensional analysis of elastic thermal stress."

Inge Maudal (Dept. 6) will present a paper entitled "Stability analysis in a bi-stable multiloop system," at the 1963 Joint Automatic Control Conference, University of Minnesota, Minneapolis, Minn., in June.

Holiday Weekends Ahead For GD Folk

Long holiday weekends are in store for General Dynamics people at most divisions.

GD/Convair, GD/Electronics, GD/Astronautics, GD/Pomona divisions will be closed for four days over the next two weekends in observance of Christmas and New Year's.

Extra division year-end holidays this year will be Monday, Dec. 24, and the next Monday, Dec. 31, to give all employees, with the exception of essential maintenance and industrial security personnel, four-day weekends.

Con-Trib Helps 'Big Brother'

VANDENBERG AFB—Contributions totaling $1,500 from General Dynamics/Astronautics and its employees here recently kicked off Operation "Big Brother."

Con-Trib-Club gave $1,000 and Astronautics added $500 to this base-sponsored program which each year provides Christmas cheer for underprivileged families, especially children.

Tomorrow (Dec. 20) some 200 children will be brought to the base and feted at a special party, including, food, entertainment and gifts. Each family will also receive food for an extra-special Christmas.

This program was originated in 1959 and has grown each year.



BIG KICKOFF—Jim Koenig (Dept. 576-4) of Astro's Vandenberg AFB force, presents $1,000 donation from Con-Trib-Club to Maj. Gen. Joseph J. Preston, commander 1st StratAD, to initiate "Operation Big Brother." Looking on are Col. Hugh D. Young, project officer, and Troy Hill, chairman. Efforts help provide Christmas for underprivileged children and families. Astronautics added another $500.

Off-Site Base Flights Reduced; Cape, Vandenberg Links Continue

A "tradition" for thousands of General Dynamics/Astronautics employees whose jobs involved travel during activation of Atlas ICBM bases throughout the country came to an end early this month.

The last of many company or Air Force Ballistic Missile Division (now BSD) flights in support of base activation made its final round trip between San Diego and Plattsburgh, N. Y.

(Continuing, however, are flights to Cape Canaveral, Fla., and Vandenberg AFB, Calif.)

Designed to transport urgently needed base activation material and equipment, as well as personnel (on a space-available basis), the flights began in January, 1960. Originally they connected San Diego with Warren AFB, Wyo., and Offutt AFB, Neb.

By September, 1960, bi-weekly service to Forbes AFB (Topeka, Kan.) was added; then in early 1961 Schilling AFB (Salina, Kan.) joined the list with flights increasing in frequency to three times weekly.

Service to Fairchild AFB, Wash., via Convair 240 began in July, 1961, and travelers "got a break" with opening of a General Dynamics "Pilot Ready Room" and waiting room near Lindbergh Field's north flight gate two months later.

By last December, two Convair 240s were in the air. One linked Warren, Schilling and Lincoln AFBs, while the other flew a route between Walker AFB, N. M., Altus AFB, Okla., and Dyess AFB, Texas.

Then, in mid-June, a newly acquired DC-6B was placed in service, flying from San Diego to Omaha to Plattsburgh AFB, N. Y. A single Convair 240 remained on the mid-west run until September.

Last DC-6 flight to Plattsburgh left Lindbergh Field Dec. 1, returning the following day.

Langley Group Hears Pomona Engineers

Two General Dynamics/Pomona engineers presented papers during the Aerospace Industries Association Dynamics and Aeroelasticity Research Panel symposium at Langley Air Force Base, Va., earlier this month.

K. L. McIntyre presented a paper titled "Vibration and flutter characteristics of thin low aspect ratio wings."

"Wind tunnel measurement of transonic oscillatory lift of a typical control surface" was presented by W. H. Terrill.

'Package Budgeting' For Sales Outlined

"New Approach to Pentagon Sales," is discussed in a current article authored by M. R. Seldon, assistant to the director of reliability at GD/Astronautics.

Seldon, former GD / Convair manager of reliability, stresses program package budgeting to arrive at the minimum cost per mission, showing the Department of Defense that any proposal submitted will give the most weapon for the least cost.

The article is appearing in the December issue of Aerospace Management.



GD/E PARTY PLANNERS—Peggy Tracy, Waneta Helms, Elaine Harmon, Mary Ransom, Sue Klund check final arrangements for coming GD/Electronics Christmas affair, Dec. 23, on-site at Ocean-House. Today (Dec. 19) is deadline date for purchasing tickets to holiday dinner-dance.

Liquid Vitamin Type on Sale

A new type of liquid vitamin, suitable for all ages, is now available to General Dynamics people at San Diego locations at discount prices.

The new Vitamin Drops, with graduated dropper attached, sells at $2.25 a bottle, at least $1 less than most popular brands on the market. Each bottle contains 60 cc, a 100-day supply, and is particularly convenient for infants.

Other vitamin products, all supplied to General Dynamics by Hightower Laboratories, include Multi-Vitamins and Minerals in two different sizes. They can be purchased either in 60s, two-a-day type, at $1, or the Super brand, one-a-day kind, in bottles of 120 at $3. A week's supply called Super 7s, comes in a plastic container for 25 cents.

Candy-type vitamins for children are $1 for a bottle of 30. B-Complex sells at $1 for 100-day supply. High VC, a candy-type vitamin C tablet recommended for persons susceptible to colds, sells at $1.40 for 100.

All can be obtained at employee services outlets, cafeterias, vending machines throughout the plants, and at the industrial relations office of GD/Electronics Hancock St. facility.

Skate Club to Halt Operations Briefly

Activities of the joint ARA-CRA Ice Skating Club have been temporarily suspended pending new rink arrangements.

Commissioner Bud Davies has announced a group trip to Los Angeles for a professional hockey game planned for late January. Details of this trip will be confirmed later.

Coineers Will Hear Association Prexy

Coineers, ARA first shift coin club, will meet at 7:30 p.m. today (Dec. 19) in ARA Clubhouse.

Guest speaker is Leonel C. Panosh, past president of American Numismatic Association, California State Numismatic Association, and San Diego Numismatic Society. His remarks will concern "Winning prizes at exhibits."

A $1-maximum gift exchange will be held, with each package to be tagged as appropriate for a man, woman, or either.

A few hours later at 1:15 a.m., Dec. 20, members of the group's second shift unit will gather. The early morning meeting will feature a trading session and display contest.

Joe Garside is ARA commissioner.

Hoskins Bags .308 Deer Rifle In Gun Club Big Game Drawing

F. C. Hoskins of GD/Convair Dept. 171 walked away with top prize, a .308 deer rifle, at the annual Big Game Drawing held by CRA-ARA Gun Club Dec. 11.

Hunters entered more big game trophies in this drawing than any other year, said CRA Commissioner Jack Swank. Altogether, by drawing time, 165 entries had been turned in by General Dynamics people.

Everything from deer to javali was thrown in the hat. And, hunters roamed throughout the entire West to bag the big ones. Entries were shot in seven states — California, Utah, Colorado, Nevada, Oregon, New Mexico, and Wyoming.

Second prize, a pair of binoculars, went to C. E. Stone of GD/Astro Dept. 975-3.

Both Hoskins and Stone shot their game on hunting trips to Utah.

Other prizes, all hunting equipment, went to Thelma McColley, wife of William McColley of GD/Convair; Bruno Paolini, GD/Convair Dept. 133; Larry Roth, GD/Convair Dept. 140; Dwain D. Baldwin, GD/Astro Dept. 830-3; C. W. Greaser, GD/Astro Dept. 573-0; J. P. Luther of GD/Astro; Mrs. Jungemann, wife of W. C. Jungemann, GD/Astro; M. V. Sumrall, GD/Astro Dept. 130-1; Dale Young, GD/Convair Dept. 115; A. L. McNeely, GD/Electronics Dept. 34.

In other awards made the same night, Joe Butera, GD/Convair Dept. 102, received the yearly trophy award as the most improved shooter.

Top scorers in the Gun Club's December shoot also received prizes: Edna Gatterman, Roy Day, Larry Bloom, Dick Keehn, Larry Moore, Lois Smith, Dr. O. V. del Rosario, Don Cost, John Burk, D. Pope.

Next regular shoot at Gillespie Field Range will be Jan. 6.

Aeromodelers Plan Contest

CRA Aeromodelers will hold a free flight rubber-flying scale model contest at the Clairemont Mesa flying site on Saturday (Jan. 19).

Models of any type of aircraft which has ever existed, including World War I and II planes, may be entered if they are equipped with rubber "motors," said Don Larsen, club president.

Winners will be determined on their realistic appearance and performance, based on a point basis.

Entries will be given 30 points for realistic takeoff; 30 for landing; and 40 for flight performance. They must be in the air at least 15 seconds to be scored.

A possible 100 points will be given for appearance: 10 for wing; 10, empennage; 10, landing gear; 10, fuselage; 10, engine and propellor; and 50 for overall finish and color workmanship.

Any modeler may enter his craft at the flying site on contest day with events scheduled between 8 a.m. and noon.

Further information may be obtained from either Larsen at ext. 2289, or Larry Peterson, co-chairman, at ext. 1477, both Plant. 1.

Golf Marshals Needed To Help at SD Open

A call is out for marshals to help with the 1963 San Diego PGA Open Golf Tournament, Jan. 10-13, and pro-amateur tourney, Jan. 9.

All interested may call Fred Wells, chief marshal, at 297-2269; sign at any of San Diego's courses or at the SD PGA Open office, Stardust Country Club, indicating days they will be available.

Marshals will compete in a free golf tourney of their own following the Open. Low gross and low net trophies will be awarded.

Sail Club Organized, Two Events Slated

Nearly a score of sailing enthusiasts attended an organizational meeting of a proposed ARA Sailing Club early this month, and two subsequent events have been scheduled.

On Dec. 29 an instruction session will be held at Mission Bay's Santa Clara Point at 1 p.m. Several boats will be available, ranging in length from 8 to 16 feet. The event is open to all GD/Astro employees and dependents.

Radar Data Contract Awarded to GD/E

The Federal Aviation Agency has awarded a quarter-million dollar contract for a radar data distribution system to General Dynamics/Electronics-Rochester.

The system will be installed at the agency's National Aviation Facilities Experimental Center at Atlantic City, New Jersey, where the Systems Research and Development Service is working on development of improved air traffic control systems.

The radar data distribution system will embody data amplifying and switching equipment.

Cafeterias Prepare Christmas Dinners

Diners at all cafeterias at GD/Convair and GD/Astro can get in training for "turkey day" tomorrow (Thursday, Dec. 20) at the special Christmas dinner served annually by the Prophet Co.

A full turkey dinner with all the extras will be on the menu at $1 during the regular lunch hours at GD/Astro main plant, Plant 2, GD/Convair Plant 1 and Pacific Hwy. cafeterias.

Dinner includes roast turkey, dressing, whipped potatoes, giblet gravy, peas, salad, cranberries, roll and butter, pie, beverage.

'BIG BROTHERS' EARN CON-TRIB SUPPORT

General Dynamics / Astronautics Employees' Con-Trib-Club recently received a special award for its contributions to "Big Brothers of San Diego County."

D. A. Haslanger, Con-Trib-Club board of directors member, accepted the award which recognized a gift of $1,000. Through this gift, the organization was able to employ, for the first time, a special case worker.

Big Brothers provides guidance and examples to fatherless boys. For instance, four sons of three Astronautics women employees are currently being aided through the program.

Robert H. Biron, General Dynamics Corporation vice president, is a member of the local advisory committee of Big Brothers.

This agency is currently seeking men who will volunteer their time in helping fatherless boys feel wanted. A women's auxiliary was recently formed and also seeks volunteers. Direct queries to Big Brothers, BE-2-3320.

Withem Data Chief; Andress Joins Astro

G. O. Withem has been named chief of data processing at General Dynamics/Convair, succeeding A. E. Andress who has transferred to GD/Astronautics, President J. H. Famme announced.

Andress had been with the GD/Convair division for 26 years in various supervisory capacities.

In Withem's new appointment, effective Dec. 10, he reports to R. C. Hartwig, manager of systems and procedures and data processing.

A native of Indiana, Withem joined GD/Convair purchasing in 1941. He has served as tabulating supervisor in production, production control, accounting; was promoted to tabulating general supervisor in data processing in 1957; held the title of chief of data processing in 1961; and more recently has geen general supervisor in data systems and programs.

Christmas Trees Sell at Bargain

General Dynamics folk had better hurry if they intend to buy their Christmas trees at reduced rates.

The wide assortment of trees, offered all GD people in the San Diego area through the Prophet Co., are now on sale at CRA Clubhouse, across from GD/Convair Plant. 1.

Sale hours are from 10 a.m. to 9 p.m. the rest of this week, until Sunday night (Dec. 23).

Salvage Yards Also Will Have Holidays

Salvage yards at both GD/Astro and GD/Convair plants will be closed to employee sales the next two Saturdays. Regular alternating Saturday schedule will resume the first week in January. GD/Convair salvage yard at Plant 1 will be open from 8 a.m. until noon on Jan. 5; GD/Astro salvage yard at Kearny Mesa site will be open Jan. 12.

CRA, ARA Hosts At Bow Event

Rube Powell, five-time national archery champion, won the champion class and the turkey prize at the Dec. 9 IRC tourney, hosted by CRA and ARA Archery Clubs.

Powell's wife, Mary, doubled up on the turkeys, taking home one for topping the B class division. Cliff Dorr of GD/Convair Dept. 400 got his bird for standing high in Class A.

CRA Commissioner Al Phipps and Harry Ross of the CRA group were among finalists in the champ shoot-off.

Competition was extremely close in all divisions, said Phipps, with most winners decided by a single target.

Billy Egan, son of Bill Egan, GD/Convair Dept. 48, was trophy winner in the junior class and Lloyd Dickinson of GD/Convair 401 was lucky winner of the leather quiver given as door prize.

Next regular shoot of the CRA Archery Club will be Sunday (Jan. 13) at the Balboa Park Field Range.

The workshop in CRA Clubhouse, Pacific Hwy., now is open by appointment only on Tuesday evenings from 7 to 9 p.m. However, a regular schedule of instruction on equipment-making will start the first of the year.

Price Reductions For Golf Available

Convair and Astro Recreation Associations are offering golf fans at San Diego facilities an opportunity to save from $1 to $4 in admission charges to the San Diego PGA Open Golf Tournament slated Jan. 10 through 13 at Stardust Country Club.

"Season" tickets for admission to all tournament play, including the pro-amateur tourney on Jan. 9, will be available for $5 at all employee services outlets. Sales open Dec. 26 and close Jan. 8.

If purchased daily, cost of tournament tickets would total $9, or if purchased at San Diego golf courses, tickets for the entire five days would be $6.

Naval Reserve Pay Billets Available

Naval Reserve pay billets in ships activation maintenance and repair division 11-1 (L) for reserve officers below the rank of full lieutenant and rated enlisted men are now open.

Information on the unit is available through Don Stearns, ext. 4306, Howard Wexler, ext. 3655, or Fred Baker, ext. 722, Plant 2. All are Astronautics employees.

United Fund Given Holloman Monies

Otero County United Fund, New Mexico, has received all monies remaining in the Holloman AFB Con-Trib-Club charity fund, through approval of GD/Convair Employees' Con-Trib-Club Committee.

The United Fund will get $1,000 toward its current goal.



TOP HANDS—Test coordinators conference at GD/Astro recently saw impressive group of space pioneers gathered for discussions. Represented in group shown here are key personnel from Atlas Weapon System, SLV and Centaur projects off-site as well as main plant. In foreground are B. G. MacNabb (AFMTC) and T. L. Maloy, right.



DESERT FISHING—Anglers found paradise recently when members of ARA Fishing Club and families spent weekend at Salton Sea. At left, Stephanie Harwood, daughter of Dept. 032's R. A. Harwood, takes relaxed approach. Next from left is Jim Lawyer, dourly displaying his eight-pound corbina, largest fish caught. Holding prize strings are Harwood and Kathy Bunniger. Kathy's parents, Mr. and Mrs. Walter D. Bunniger, and brother Douglas, are at right. At far right, boat-borne set included John Maxwell, left, program chairman, and ARA Commissioner T. B. Field. Headquarters for trip was Salton City Marina.

'Slow Break' Basketball Led by GD/Electronics

GD/Electronics stood on the top of the heap at the end of three weeks of "slow break" basketball play in shop league competition.

They had won both their tilts, with the first game a bye. On Dec. 4 GD/E defeated Electronics, 29-25 and went on the next week to down the Thirty-Niners, 31-19.

Other results of Dec. 4 basketball games, held each Tuesday evening on Muni Gym courts, saw Thirty-Niners defeating Rose Canyon, 30-26 and Dept. 16 taking a close game from Hi-Lows, 26-24. Dept. 91 drew a bye.

Last week Hi-Lows went down before an onslaught from Rose Canyon, 43-25, and Dept. 16 barely grabbed their game from Dept. 91, 22-21. No match was scheduled for Electronics.

Next games will be played after the holidays with regular Tuesday night schedule beginning Jan. 8. Then Rose Canyon will play Dept. 16; Hi-Lows vs. Electronics; GD/E vs. Dept. 91.

TEAM STANDINGS

	Won	Lost
GD/Electronics	2	0
Thirty-Niners	2	1
Dept. 16	2	1
Electronics	1	1
Dept. 91	1	1
Rose Canyon	1	2
Hi-Lows	0	3

Cameramen To Join Forces With Astro At Future Meetings

CRA Camera Club will join the ARA group, Astro Lens, for joint meetings.

First CRA-ARA session will be Jan. 6, a Sunday, at 7:30 p.m., in the Photo Arts Bldg., Balboa Park, said club spokesmen. Lillian Fayman of La Jolla will be guest speaker.

All members are asked to bring five color slides from which a club entry will be selected for the coming show, "Tops in Color," sponsored by the Southern California Association of Camera Clubs. All GD/Convair and GD/Electronics lens fans are welcome to attend.

In the CRA club's annual quarterly contest, held Dec. 10, Howard Harvey won honors in color slide division, and Joan Ainsworth's black and white print was tabbed top entry.

Sports Car Service Facilities Set Up At Gillespie Field

CRA Sports Car members will be setting up shop on their own at facilities provided them by the Convair Recreation Association.

A building at Gillespie Field has been turned over to the group for a club garage. Plans are now under way for installation of a paint shop and grease rack, said Lou Barnes of GD/Electronics, club president.

All sports car enthusiasts are urged to attend a special meeting at the Gillespie Field site on Jan. 9 to inspect the new facility and help outline a work schedule and shop layout.

A potluck dinner will be held at 7:30 p.m. in the Gillespie Field Clubhouse with all GD/Convair and GD/Electronics sports car drivers welcome.

Bishop 'Makes' Pistol Team

Commissioner Ash Bishop found himself one of the top crew of the CRA Pistol Club as a new pistol team was tabbed for the next three months of competition.

Bishop joins Jim Halfacre, Vern Mardis, and Joe Williamson as high scorers in Short National Events during the last quarter. Halfacre (Dept. 140), Mardis (Dept. 34), Williamson (Dept. 401) have kept their spots on the team for three quarters in a row.

Their individual aggregate scores during the fall quarter were: Halfacre, 809; Mardis, 793; Williamson, 778; Bishop, 722.

Mardis and Halfacre also split honors at Dec. 9 matches, sweeping both .22-cal. Police Course master class and .45-cal Short National events. Mardis was first in the master class with 290, one point ahead of Halfacre. In the National, Mardis trailed Halfacre. Halfacre shot a 269 and Mardis a 245.

Ralph Picard of GD/Electronics won the Police Course expert class with a 274.

Next Pistol Club shoot has been postponed to Sunday (Jan. 13) since the regular fourth-Sunday date falls during the holidays, said Bishop.

Bridge Instruction Under Consideration

CRA Bridge Club players will be holding their card battles in a new location after the first of the year, if present plans carry through, said Frank Westphal, president.

Last night's annual Christmas session was the final gathering of the CRA group at Barcelona Hotel, site of their bridge play for several years.

Tentative plans are being made to hold once-a-month sessions at the Gillespie Field Clubhouse, probably on Sunday afternoons, said Westphal. Until a final decision has been reached, there will be no club meetings.

Other new developments in sight for GD/Convair and GD/Electronics beginning card players will be instruction classes starting in January, if there is enough interest. These classes will be held at the Barcelona Hotel, Fourth and Juniper Sts., if at least 10 people sign.

Anyone interested is urged to call Westphal at ext. 2225, Plant 1.

Sports & Recreation



SPORTS—SPORTS—SPORTS—Charlene Lewis of GD/Electronics Plant 2 checks over recreation activities available to all GD/E people through CRA and publicized on attractive bulletin boards at Hancock St. facility. CRA boards are maintained by GD/E industrial relations.

Road Runners Will Hold Party Friday at Gillespie Clubhouse

CRA Road Runners will meet Santa Claus at their annual family Christmas party this Friday (Dec. 21) at 7:30 p.m. at the Gillespie Field Clubhouse.

The good old gentleman will pass out candy and gifts to the little ones, and the grown-ups will enjoy a traditional holiday celebration with carol singing, refreshments, and dancing. Ruby Becker is in charge of arrangements.

Fifteen trailer units traveled to Blair Valley in the Anza-Borrego desert area over the Dec. 7-9 weekend to enjoy the warm, sunny inland days (and nippy nights!).

Ranger Guy Huston of the Blair Valley Ranger Station gave a fireside talk before 59 people after the Saturday night potluck dinner. He explained Indian writings and landmarks found in the area, the Vallecito Stage Station, and gave some history of desert animals.

Guests for the weekend were Mr. and Mrs. Charles Reisner and Mr. and Mrs. Mark Lindsey of GD/Convair.

Next outing is set for the weekend of Jan. 18-20 to Vallecito Stage County Park, in the same general area. Bill Hamilton and George Hurley Jr. are in charge of arrangements.

Golfers Will Play Carlton Oaks Links

Entries open today (Dec. 19) for all GD/Convair and GD/Electronics golfers who plan to take part in the January tourney, said Ken Wulfemeyer, CRA commissioner.

The monthly CRA match will be held Jan. 5 and 6 at Carlton Oaks Country Club. Greens fees are $3.50.

Starting times can be obtained through Dec. 28 by calling ext. 1705, Plant 1.

Model Railroaders Help Host Meeting

CRA Model Railroaders had a hand in staging the San Diego division meeting of West Coast Region which drew 120 fans from San Diego and Imperial Counties to the House of Charm meeting place in mid-November.

Karl Busch, of GD/Convair, as president of the San Diego Model Railroad Club, headed the host group. Dave Kahler, also of GD/Convair, had the chore of obtaining merchandise door prizes given to men, women, and children.

Bob Durnell of GD/Electronics showed a program of railroad slides during the day's events.

Other highlights were an auction of all kinds of model railroading articles, from rusted window screen to new locomotives and cars; a demonstration of electronic control of locomotives; switching contest problem layout; and operation of both the O and HO layouts.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for GD/Convair and GD/Electronics people. For information call CRA headquarters, ext. 1245, Plant 1.)

★ ★ ★

AEROMODELERS — Flying sessions each Saturday and Sunday, 7 a.m. to 1 p.m., Clairemont Mesa flying site. Rubber-flying scale model contest Jan. 19, 8 a.m. to noon.

ARCHERY — Regular shoot Sunday (Jan. 13) Balboa Park range. Workshop open Tuesday nights by appointment.

BADMINTON — Organized play for General Dynamics families Tuesdays, 7:30 p.m., Federal Bldg., Balboa Park.

BASKETBALL — Shop league tourney play Tuesday nights, Muni Gym, Balboa Park.

BRIDGE CLUB — No sessions until after first of year.

CAMERA CLUB — Meeting Jan. 6, Photo Arts Bldg., Balboa Park, 7:30 p.m.

FENCING — Workouts and instruction each Friday, 7-10 p.m., YWCA, 10th & C Sts.

GOLF — Entries open through Dec. 28 for CRA tournament (Jan. 5-6) at Carlton Oaks Country Club. Call ext. 1705, Plant 1, for starting times.

GUN CLUB — Regular Sunday shoot Jan. 6, Gillespie Field Range for rifle, trap, and skeet.

ICE SKATING — No skate nights scheduled for present.

JUDO—Instruction and workouts for beginners and intermediates Thursdays, 7:30 p.m., CRA Clubhouse, Pacific Hwy.

MODEL RAILROAD — Work nights, Fridays, 7:30 p.m.; open sessions, Sundays, 1-4:30 p.m., House of Charm, Balboa Park.

MOVIES — Reduced prices for General Dynamics people at State Theater, Euclid and El Cajon Blvd. General admission: adults, 75 cents; children under 12, 20 cents.

PISTOL CLUB — Next regular shoot Sunday (Jan. 13), 9:15 a.m., at San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tomorrow night (Dec. 20) at Harbor Drive headquarters, 8 p.m.

ROAD RUNNERS — Christmas party Dec. 21 at 7:30 p.m., Gillespie Field Clubhouse. Outing planned Jan. 18-20.

SPORTS CAR CLUB — Potluck dinner and meeting at Gillespie Field Wednesday (Jan. 9), 7:30 p.m.

TROPICAL FISH CLUB — Meetings suspended until further notice. Members interested in Thursday night workshops call Pete Beyrer, ext. 1245, Plant 1.

WATER SKI CLUB — Weekend skiing on phone-call basis. Call Gene Sevigny, ext. 1657, or Jack Loos, ext. 2456, both Plant 1.

At 15,000mph, Projectile Simulates Outer Space Collision

What happens when a meteoroid strikes a space vehicle?

Little information has been available. Because of difficulty in duplicating the high speeds and tiny particles involved under controlled laboratory conditions, space scientists have relied on theory for their predictions.

Now through efforts of General Dynamics/Astronautics materials research (Dept. 592-1) under Abe Hurlich, chief, some of the answers have come to light.

In a rugged area of San Diego County (Calif.) known as Green Farm Test Site, using relatively simple equipment, a team headed by Dr. Fred Rolsten has run test after test over a period of more than two years.

Essentially, these tests have consisted of firing projectiles of known size, weight and shape at very high velocities into materials in use (or considered for use) in space vehicles.

Result is a great volume of information compiled from experiments under scientifically controlled conditions — identical projectile sizes, shapes, mass and velocity; identical target materials; and similar environments.

Also achieved were extremely high projectile speeds (to nearly 15,000 mph) with very small particles.

Tests are run either in open air, or in a special vacuum chamber at the Green Farm Site, where the group shares an area leased by General Atomic Division near GD/Astro's Sycamore Canyon Facility.

For an open air test, a material sample—the target plate—is fixed in a frame. A small projectile, usually of less than .1-gram in weight, is loaded in a simple firing apparatus filled with plastic explosive.

The explosive is detonated by remote electrical firing of a dynamite cap, and drives the projectile at "point blank" range into the target plate.

Cameras mounted on oscilloscopes monitor firings and record projectile velocity information.

Working with Rolsten are H. H. Hunt and J. N. Wellnitz. Another veteran with such programs handles explosive materials and sets up the "shots." He is Harry Anderson, who previously worked on similar GD/Convair rain-erosion research in support of the F-102/106 programs.

The arrangements for a test in the vacuum chamber are similar to those for open air firing. Here, however, projectile impact takes place in a controlled environment with the vacuum approaching that of altitudes 500 miles above the earth (.000001-mm of Mercury).

Within the chamber, the group has fired projectiles weighing only .001-gram, and expect to fire tiny "bullets" of only one-tenth that weight in the near future.

Another of their major accomplishments is the successful firing of projectiles of .002-grams in weight at velocities of 25,000-feet-per-second!

"This test series provided information in an area on which we previously only theorized," said Rolsten.

Working with Dr. Roman Smith of General Atomic, the team conducted a series of tests using radioactive projectiles.

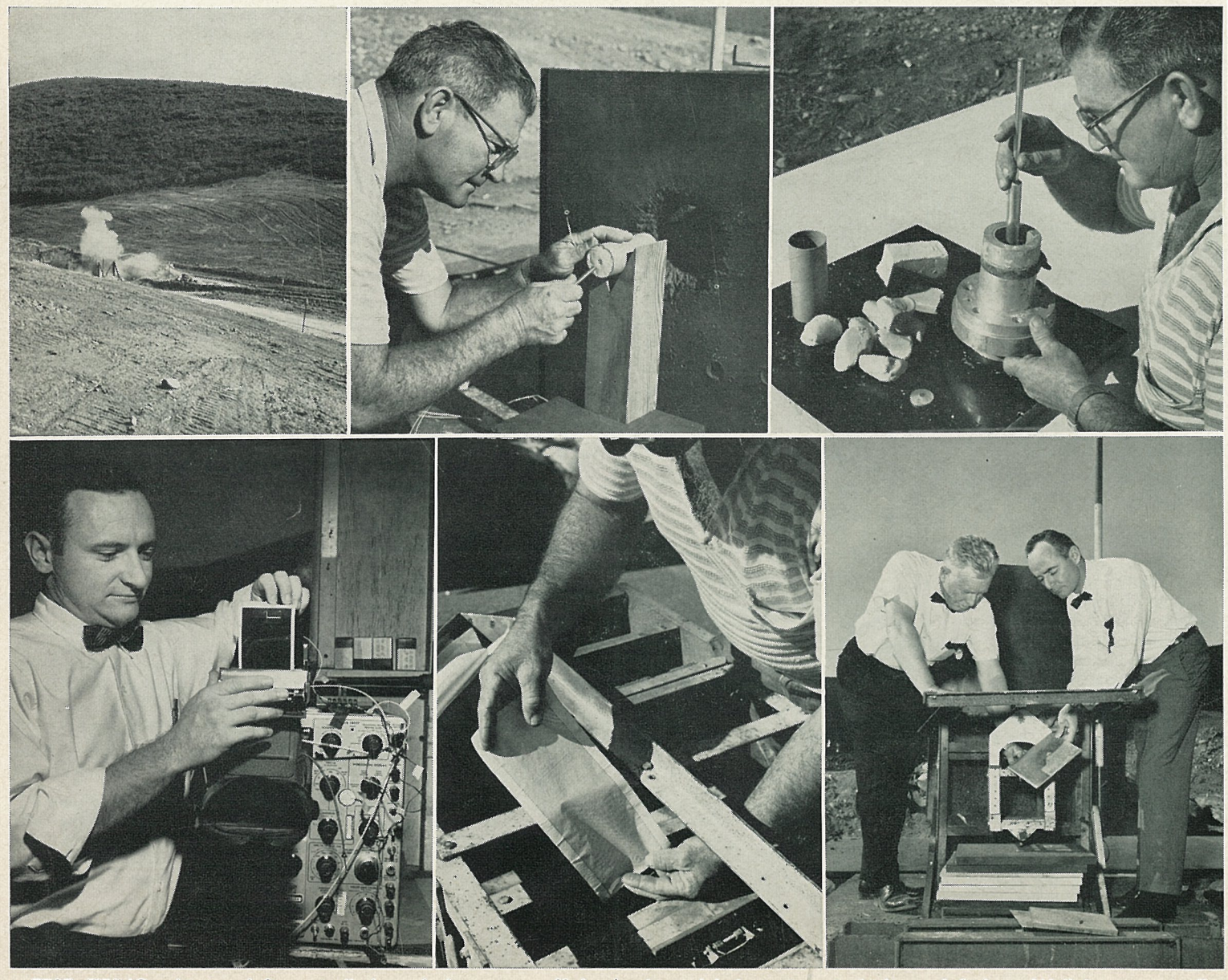
Resulting data permit them to predict accurately what portion of a projectile remains in a "crater"—the "pockmark" at the point of impact—after it strikes a surface at high velocity. (This is a surprising 5 to 7 per cent of the original projectile mass. The remainder "splashes out" or vaporizes.)

This information can also be used to predict the quantity of a meteorite remaining in a crater formed in the earth.

Still other experiments have permitted unusually accurate prediction of crater depth and diameter, based on projectile size and velocity of impact.

Besides the value of their work as "pure science," materials research has contributed directly to GD/Astronautics' Centaur and other space vehicle projects. Expense of some of their studies has been borne by GD/Astro, while others have been carried out under contract to governmental agencies.

Now the group looks forward to additional apparatus with which to expand their theoretical and experimental work. Due for installation by the end of the month is new photo X-ray, framing and streak camera equipment to be used in conjunction with the vacuum chamber facility.



TEST FIRING—At top left controlled explosion goes off in GD/Astro material test series at San Diego. At top right, "gunsmith" Harry Anderson packs plastic explosive into dye to form "gun." At top center he carefully inserts dynamite cap into explosive, encased in cardboard tube. When fired, tube does not blow up like firecracker, but propels tiny projectile through charred hole to target. At lower left Jerry Wellnitz removes finished Polaroid photo from camera. Lines chart projectile's velocity. Lower center: projectile passes through three precisely spaced paper barriers which give oscillograph reading of velocity. Lower right: H. H. Hunt and Dr. Fred Rolsten remove target plate after firing.

Centaur Components Enter 'Space' Via Ultra-High-Vacuum Chamber

First Centaur test specimens went into the newly-modified GD/Astronautics advanced space chamber at San Diego during the last few weeks to "take a ride" into outer space.

The components, sun detectors for the Centaur launch vehicle, were first to undergo combined environmental checkouts in the large ultra-high-vacuum chamber at Plant 1 since its recent modification (**General Dynamics NEWS**, Sept. 26, 1962).

The just-concluded test program used the chamber's expanded capabilities of vibration to simulate forces during propulsion, or takeoff, and the high-vacuum conditions duplicating outer space environment.

As an Astro reliability requirement, test engineers in Astro's dynamics lab put the small electronic components through every condition they will encounter within the Centaur vehicle in coming space exploration flights.

First, temperature and humidity conditions were set up to duplicate a hot, sticky semi-tropical climate surrounding the probable launch site. Temperatures ranged from 115 degrees F. and 95 to 100 per cent humidity to a low of 40 degrees F. with the same humidity.

Then, preparations began for the "ride."

Specimens were sprayed with cold gaseous nitrogen for the same treatment they might get during fueling operations.

The newly-installed vibrator went into action to simulate blast-off forces. At the same time, vacuum pumps were started to lower pressure as components were "shot out" beyond the earth's atmosphere.

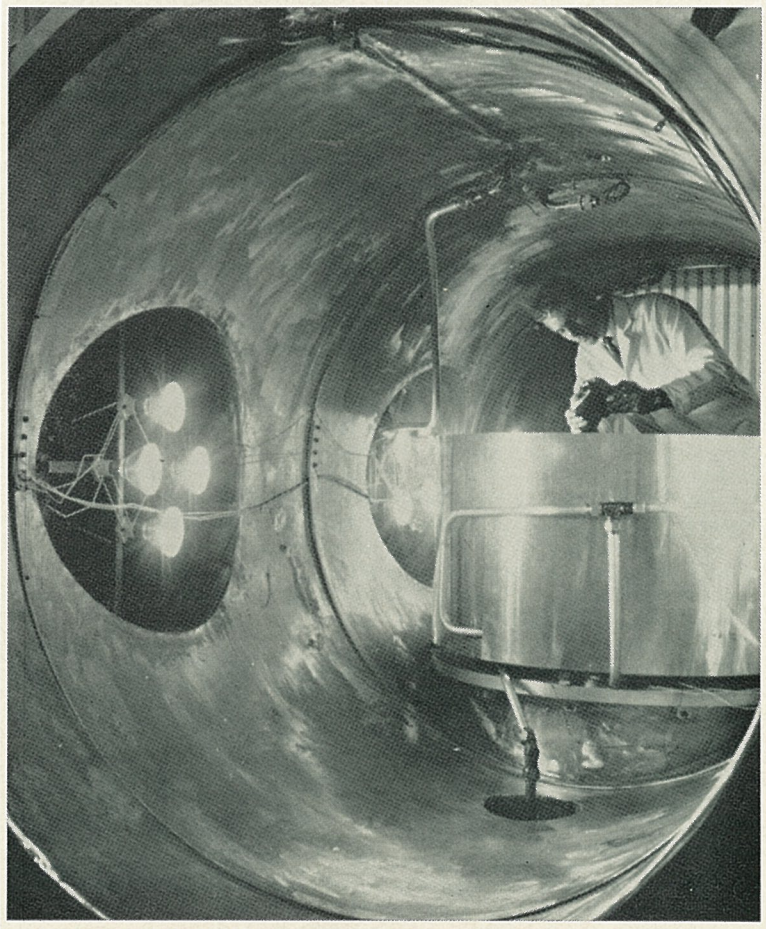
Cryogenic plates surrounding the specimens were filled with liquid nitrogen as the cold nothingness of outer space was "reached." The plates are painted black on the inside, duplicating blackness of space, to see how components will perform while losing their own heat as it is radiated into the cold of outer space.

Testing went from cold to hot while heat lamps were turned on to broil components in singeing heat from the sun without the atmosphere's protecting cushion.

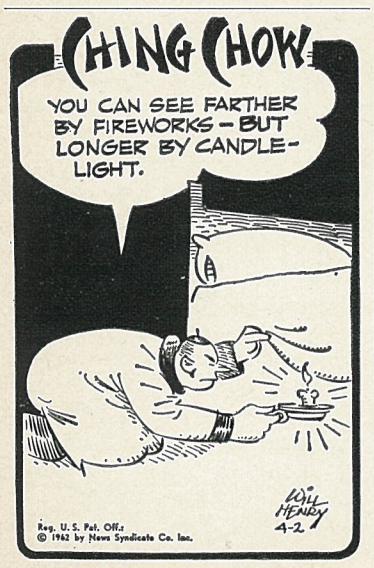
They were kept at maximum altitude (above 350,000 ft.) for prolonged periods before another shaking by the vibration exciter, simulating final engine operation, brought them back to earth.

Initial tests within the space chamber were proclaimed satisfactory on all counts, said test engineer J. Ned Shaw, responsible for this particular program under Howard Bard, assistant test lab group engineer. Also assigned to the project were Dick Green and Ray Williams, dynamics test engineers.

Other Centaur component testing will follow as the program progresses, said M. C. Brady, in charge of the Dept. 500 dynamics laboratories.



BRIGHT SHINE—Dick Green, GD/Astro systems dynamics test engineer, holds one of first components to go into advanced space chamber at Plant 1, San Diego. Interior of chamber must be kept spotless, free of even fingerprints which could effect simulation of outer space conditions.



GD/NEWS' First Issue In '63 To Be Jan. 9

General Dynamics NEWS' first issue in 1963 will appear Wednesday, Jan. 9, instead of Jan. 2, which the normal every-other-week schedule calls for. The week is being slipped because of the interruption of holidays with the regular production sequence.

The **NEWS** will continue biweekly thereafter, as usual.